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December 1964

TCS-11033/64

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56 Pages

PHOTOGRAPHIC INTERPRETATION REPORT

**ACTIVITY AT SA-1 SAM SITES
MOSCOW, USSR
AUGUST--NOVEMBER 1964**

Declass Review by NIMA/DOD



CIA



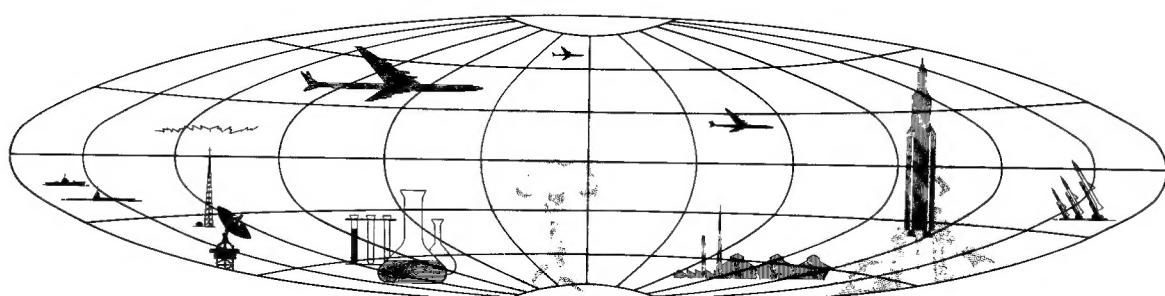
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PREFACE

25X1D

This report is in response to requirements for updated information on the unidentified activity at SA-1 SAM sites around Moscow (Figure 1). Based on coverage obtained from KEYHOLE missions between [REDACTED]

25X1D

25X1D

[REDACTED] the report complements a previously published NPIC report that was compiled from photography available through [REDACTED]

The first part of this report provides additional analysis of the unidentified activity at most of the SA-1 SAM sites in the Moscow area. The second part provides the limited amount of information obtained from [REDACTED] on the construction of additional triads at SAM Sites E05-1 and E33-1.

25X1D

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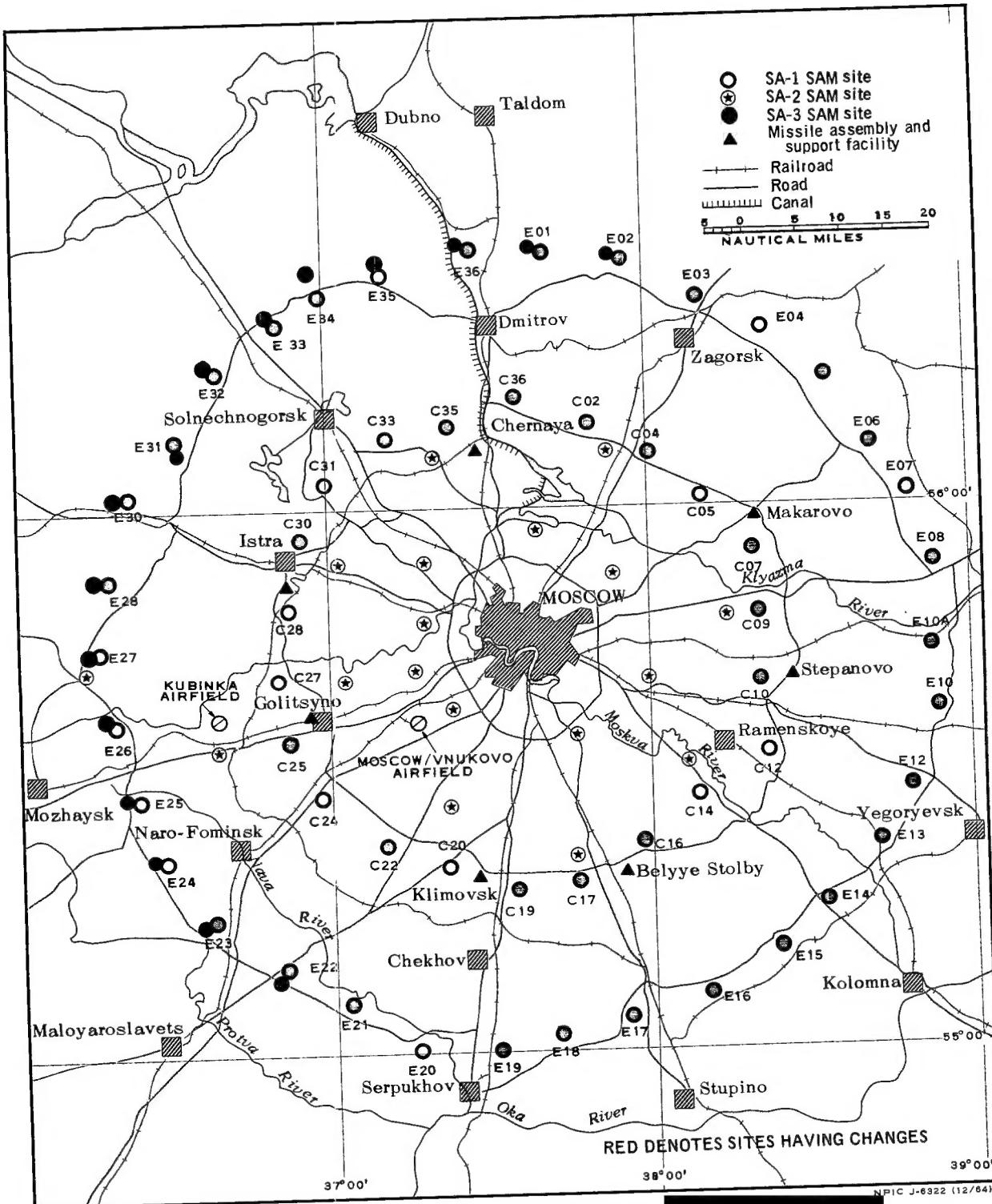


FIGURE 1. MOSCOW SA-1 SITES HAVING CONSTRUCTION ACTIVITY

NPIC J-6922 (12/64)

25X1D

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SAM SITE C02-1

A possible road under construction, not present on photography of [REDACTED] was 25X1D observed between rib roads 1B and 2B (Figure 3, item 4) on photography of [REDACTED] 25X1D [REDACTED]. The road is approximately 15 feet wide 25X1D and could provide a wider radius turn than the present rib road does. 25X1D

On photography of [REDACTED] two 25X1D areas of scarring observed on earlier coverage 25X1D were no longer discernible at points indicated by items 2 and 3. No changes were apparent in the guidance and support areas. Missile equipment was observed in the launch area on [REDACTED]

SAM SITE C04-1

Photographic coverage of sharper image quality permits refinement of previously published measurements on the activity at this

site. The U-shaped revetment on the north side of the launch area (Figure 4, item 1) has walls that are 115, 85, and 135 feet long, 20 feet wide at the base and an estimated [REDACTED] 25X1D. Orientation of the revetment is [REDACTED] Across the perimeter road approximately 295 feet to the south there are two parallel earthen walls 185 feet long and 55 feet apart. The walls are [REDACTED] at the base and are oriented on azimuths of 30/210 degrees. 25X1D

A horseshoe-shaped revetment (item 2) has two 75-foot walls joined by a 50-foot wall, all walls being 20 feet wide at the base and an estimated [REDACTED] 25X1D. This revetment was first observed on [REDACTED] coverage in the 25X1D previously reported scarring parallel to rib road 9B. Orientation of the revetment is [REDACTED] 25X1D degrees. Missile equipment was observed within the launch area on [REDACTED] photography. 25X1D No changes were apparent in the support or guidance areas since the previous report. 25X1D

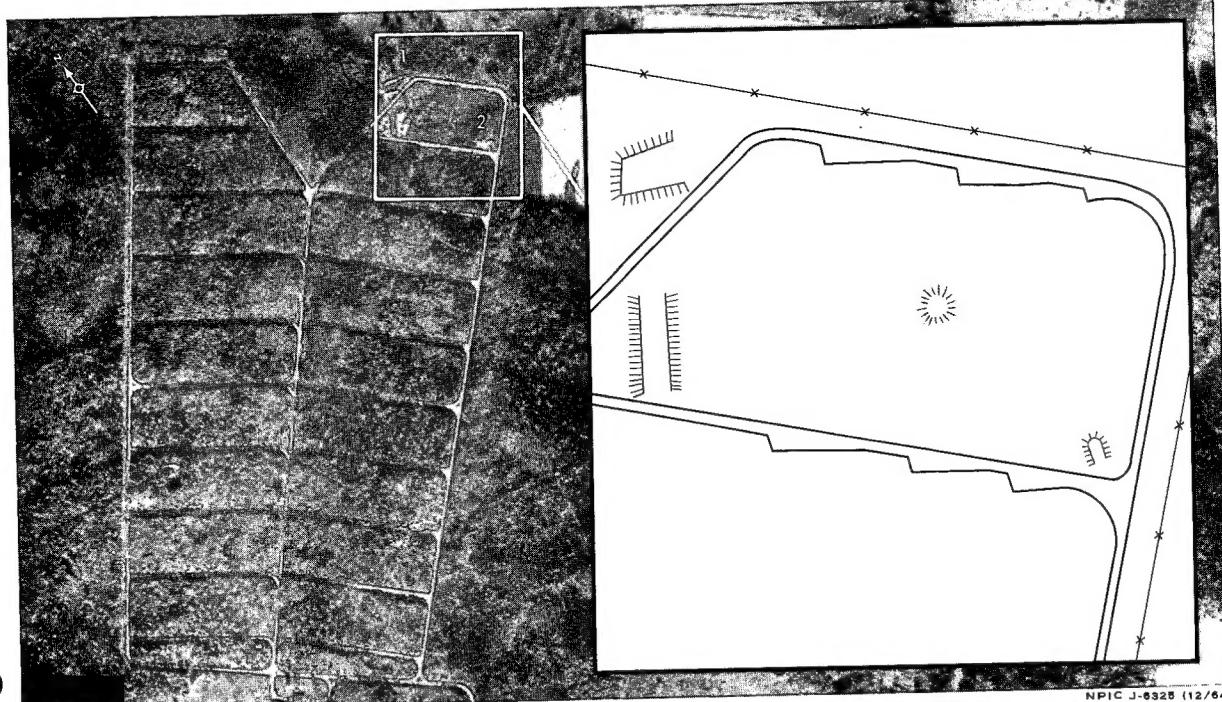
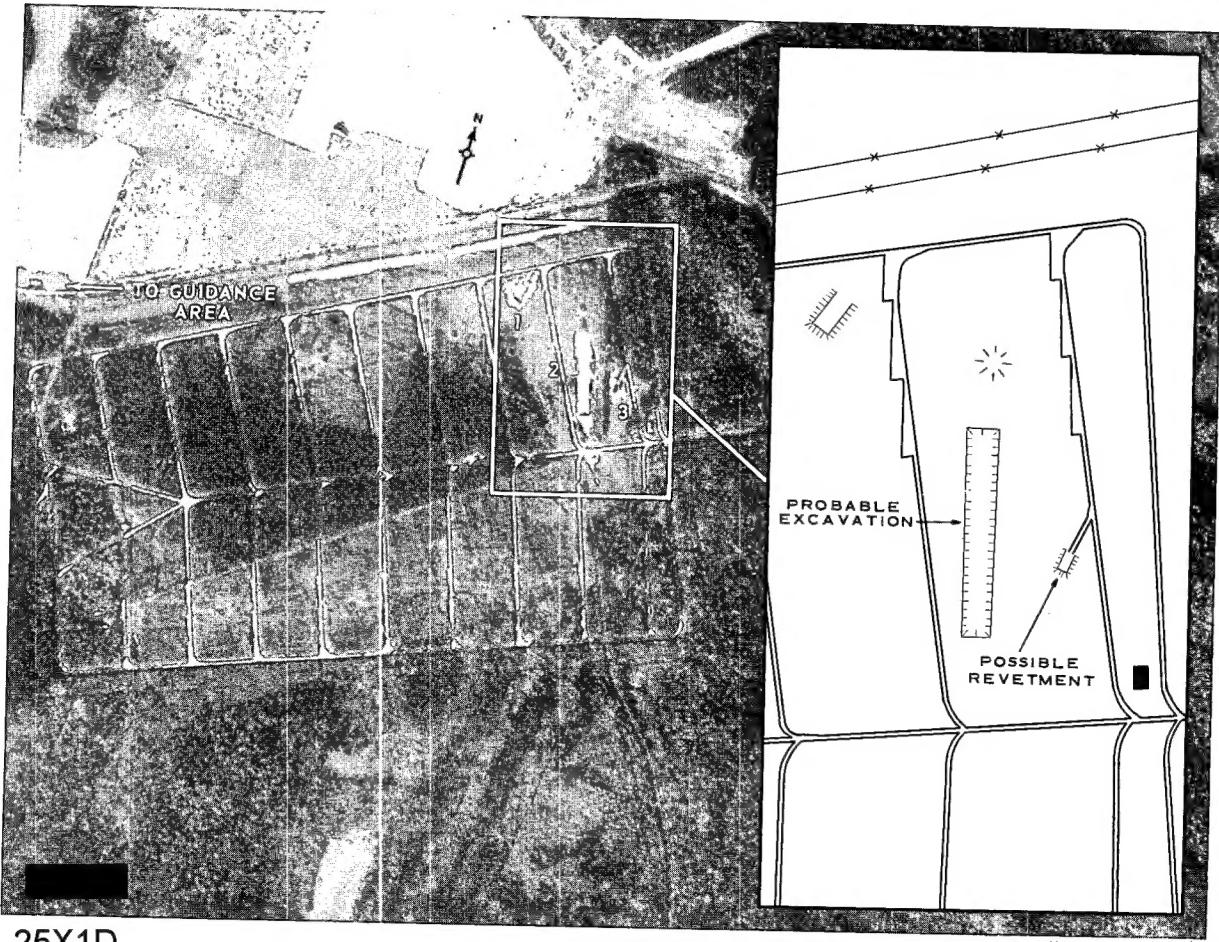


FIGURE 4. MOSCOW SAM SITE C04-1.

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25X1D

FIGURE 5. MOSCOW SAM SITE C07-1.

NPIC J-6326 (12/64)

SAM SITE C05-1 (NO FIGURE)

No apparent changes were observed at this 25X1D site between [REDACTED] nor was missile equipment discernible. The site is in a heavy stand of trees and many of the launch positions were not observed.

SAM SITE C07-1 25X1D

On photography of [REDACTED] a probable U-shaped revetment (Figure 5, item 1) was identified between rib roads 7A and 8A, but measurements were not furnished. Based on the [REDACTED] photography, the dimen-

sions were determined to be 140 by 75 by 140 feet with walls 15 feet wide at the base and approximately 15 feet high. Orientation of the revetment is [REDACTED]. A rectangular 25X1D probable excavation (item 2) was first identified between rib roads 8A and 9A on photography of [REDACTED]. The long axis of the probable 25X1D excavation is oriented on an azimuth of [REDACTED] degrees. 25X1D

[REDACTED] photography revealed a possible revetment (item 3) adjacent to the east side of the probable excavation and connected by road to rib road 9A. Orientation of the possible revetment is [REDACTED]. 25X1D

25X1D

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FIGURE 6. MOSCOW SAM SITE C09-1.

25X1D Missile equipment was observed within the launch area on [REDACTED]

25X1D [REDACTED] No apparent changes were observed in the guidance or support areas.

SAM SITE C09-1 25X1D

25X1D On photography of [REDACTED] earth scarring was observed on the east side of rib road 6B, and the scarring had increased in area

25X1D on the subsequent photography of [REDACTED] By [REDACTED] a U-shaped revetment (Figure 6, item 1) with two 135-foot walls joined by a 275-foot wall had been constructed in the scarred area. The walls are

25 feet wide at the base and approximately [REDACTED] feet high. Opposite the revetment, on the west side of the rib road and parallel to the road, there is an earthen wall 275 feet long, 20 feet wide, and [REDACTED] This wall, in relation to the U-shaped revetment across the road, in effect creates a four-sided drive-through revetment with rib road 6B providing north-south access. Orientation of the revetment is [REDACTED]

25X1D Missle equipment was observed within the launch area on [REDACTED]

25X1D [REDACTED] No apparent changes were observed in the guidance or support areas.

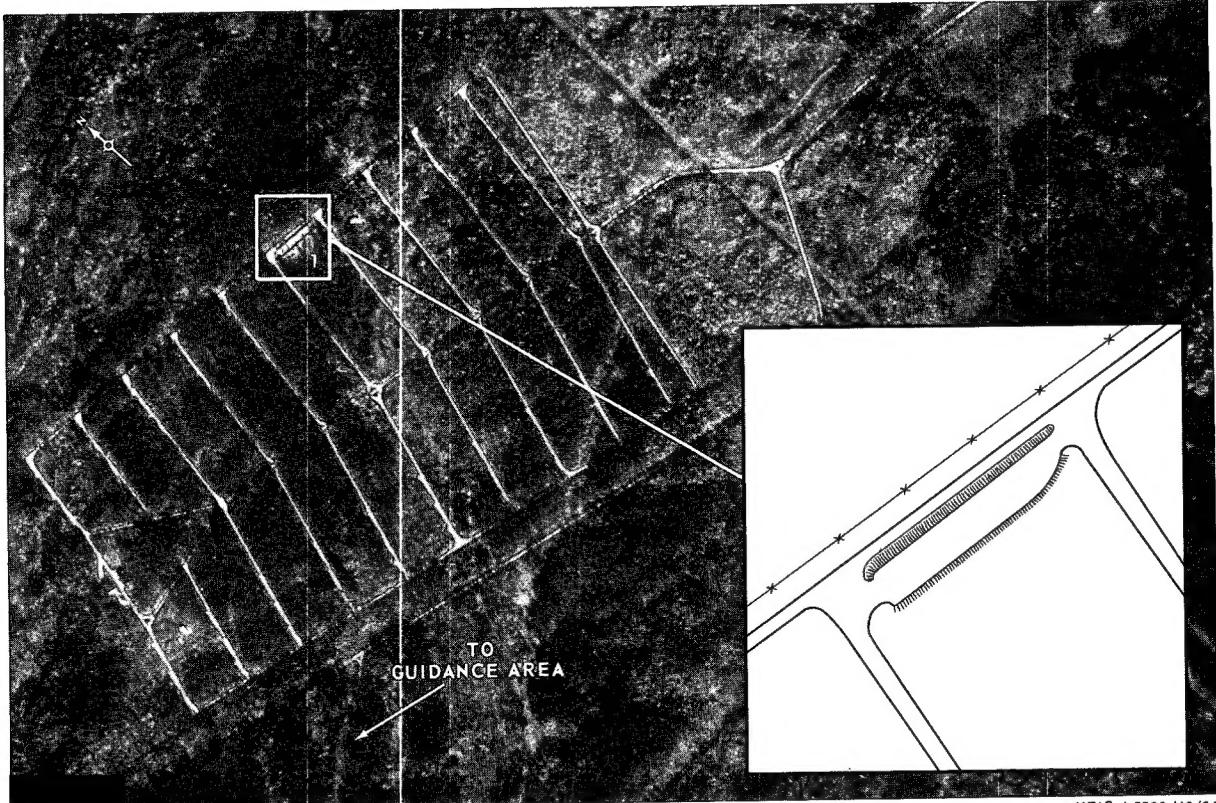
25X1D

25X1D

25X1D

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25X1D

FIGURE 7. MOSCOW SAM SITE C10-1.

SAM SITE C10-1

Two parallel earthen walls were identified 25X1D on photography of [REDACTED] between rib roads 5A and 6A and parallel to the perimeter road (Figure 7, item 1). The walls create 25X1D a drive-through revetment with openings to rib road 5A on the west and to 6A on the 25X1D east. The walls are 425 feet long, 20 feet wide at the base, approximately [REDACTED] 25X1D and they are 70 feet apart at the west end 25X1D but converge to a [REDACTED] at the east 25X1D end. Orientation of the revetment is [REDACTED] degrees.

Missile equipment was observed in the 25X1D launch area on the [REDACTED] coverage. No changes were apparent in the support or 25X1D guidance areas.

SAM SITE C12-1

There has been no apparent change in the activity first observed between rib roads 2B and 3B on photography of [REDACTED]. The previously reported walls or structures are now confirmed as earthen walls forming a rectangular revetment (Figure 8, item 1). Two of the walls are 315 feet long, two are 255 feet long, and all are 30 feet wide at the base and approximately 15 feet high. Access into this revetment is limited to a single opening at the southeast corner of the revetment at rib road 3B. Orientation of the revetment is [REDACTED].

Missile equipment was observed within the launch area on the [REDACTED] coverage. No apparent changes were observed in the support or guidance areas.

25X1D

25X1D

25X1D

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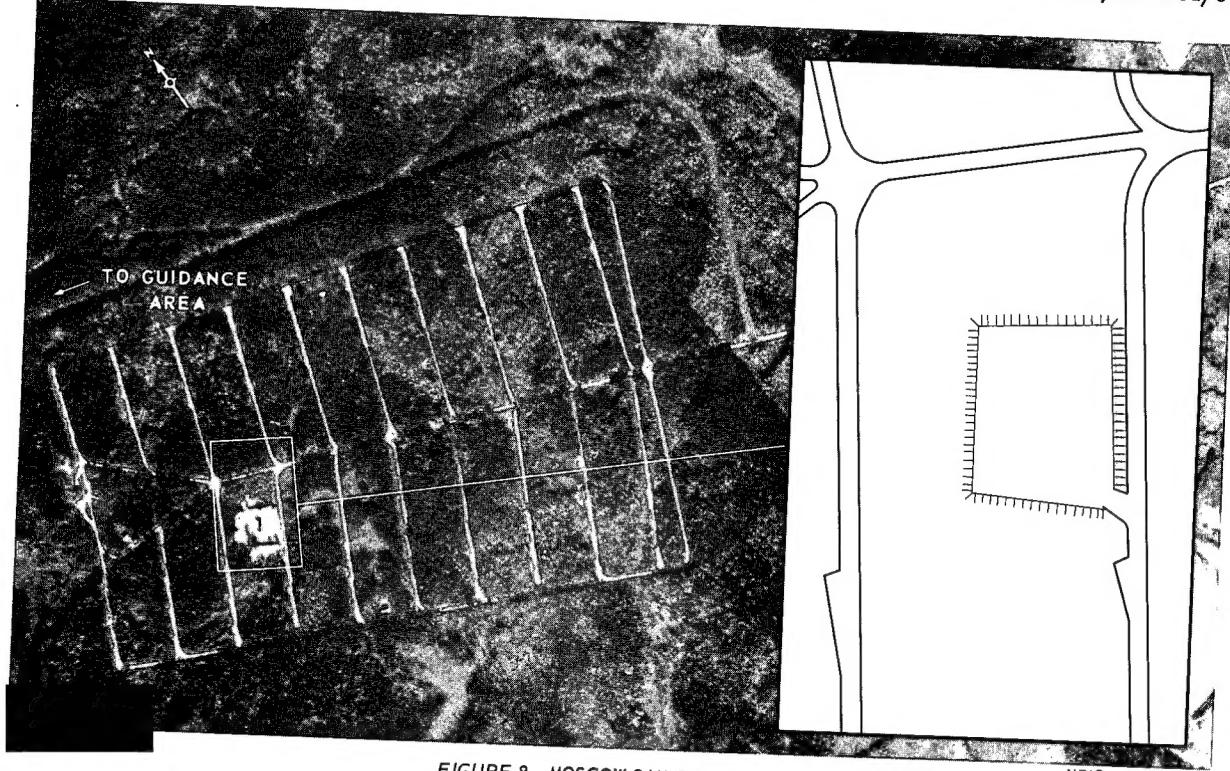


FIGURE 8. MOSCOW SAM SITE C12-1.

NPIC J-6353 (12/64)

SAM SITE C14-1

No apparent changes have been observed 25X1D at the site since [REDACTED] but inexplicable activity along an improved road near the site has not been reported previously. The road extends west-northwest/east-southeast, is approximately 35 feet wide, and has been improved for 16,000 feet. At the western terminus there is a loop turnaround (not shown in Figure 9), and at the eastern end of the improved section there is a semicircular area of scarred earth (Figure 9, item 1) containing an unidentified object. The distance from the outer edge of the semicircle to the near edge of the road is 305 feet.

Two smaller semicircles have been cleared along the north side of the road, approximately 3,335 feet (item 2) and 7,085 feet (item 3) west of the large semicircle. The distance from the outer edge of the semicircle to the

near edge of the road at each of these semicircles is 95 feet.

Approximately 10,885 feet west of the large semicircle there is a linear scar 105 feet wide (item 4) that extends 4,660 feet in a north-northeast direction. In the northern half of the linear area there are two rows of light-toned mounds positioned [REDACTED] feet in from the sides of the cleared area, with a [REDACTED] separation down the middle. The mounds are approximately 35 feet wide, range in height from [REDACTED] and are [REDACTED] feet apart (north-south).

As early as [REDACTED] activity was 25X1D observed in the area of the large semicircular clearing. All of the other features were present in [REDACTED] and appear unchanged in [REDACTED] 25X1D. Missile equipment was observed in the launch area on photography of [REDACTED] 25X1D

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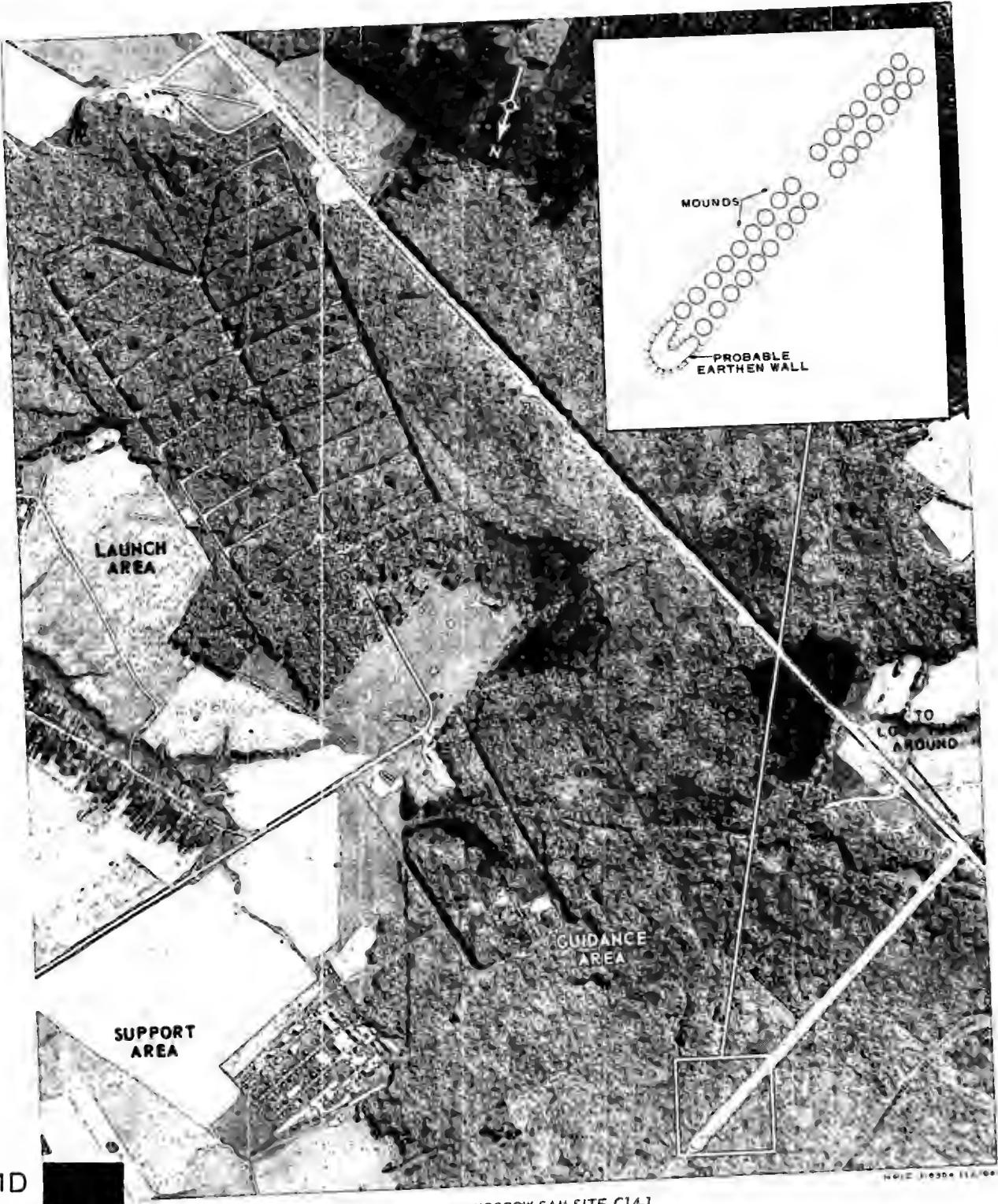


FIGURE 9. MOSCOW SAM SITE C14-1.

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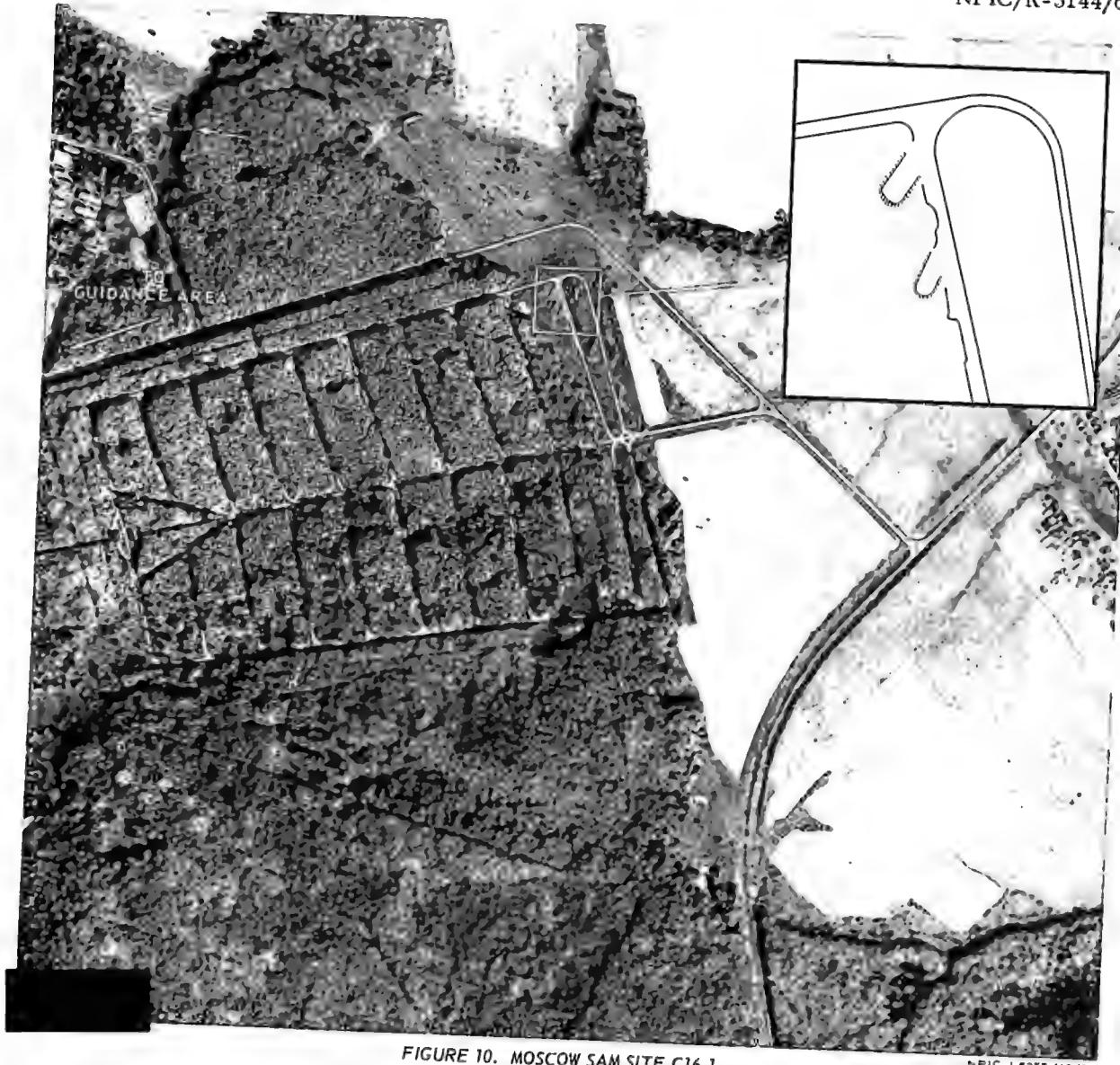


FIGURE 10. MOSCOW SAM SITE C16-1.

SAM SITE C16-1

25X1D

25X1D Two horseshoe-shaped revetments were identified on [REDACTED] photography on the north side of rib road 9A in the area of a previously reported curved scar (Figure 10, item 1). One revetment has walls 85, 50, and 70 feet long, and 15 feet wide at

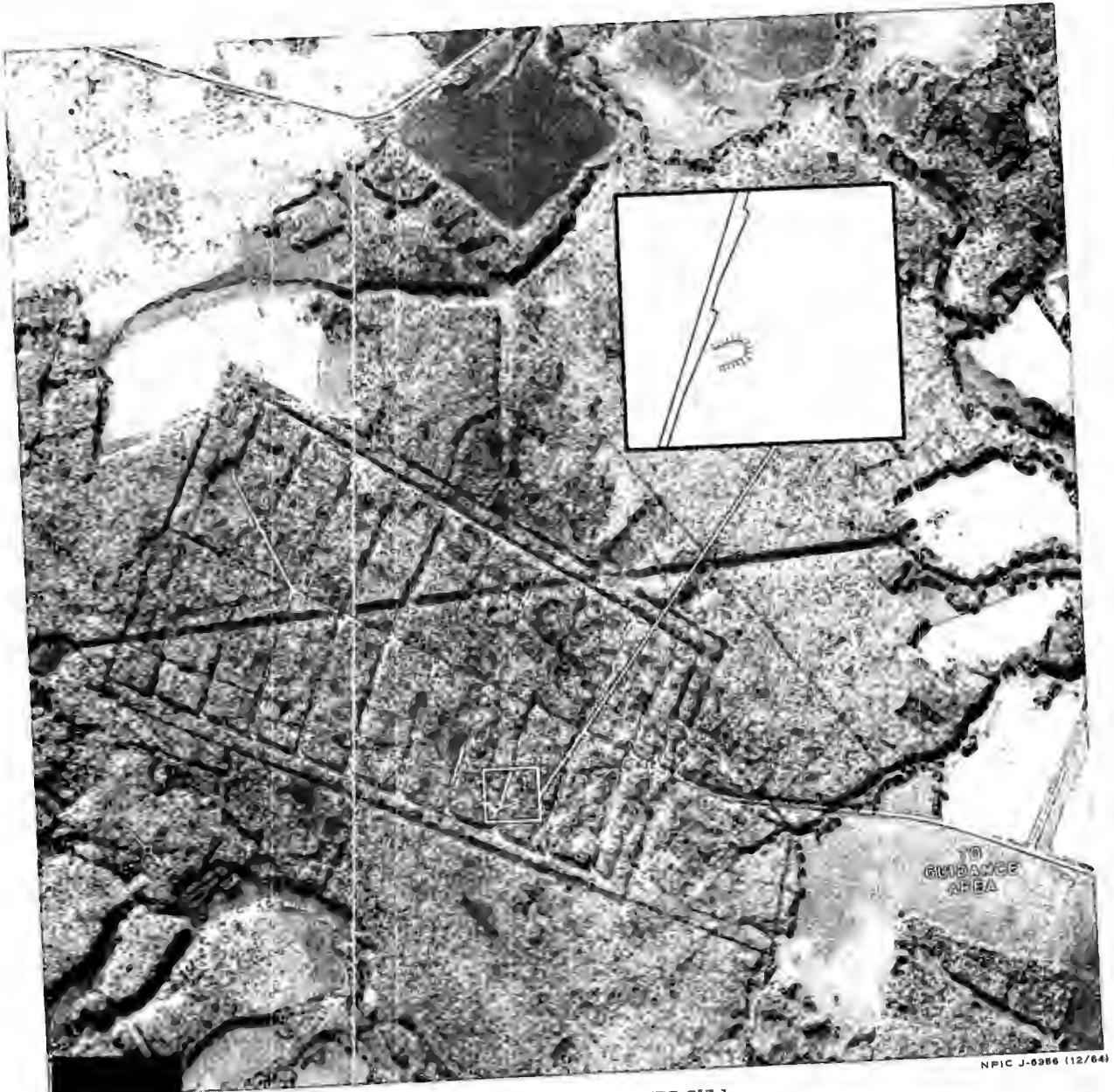
the base; it is oriented on an azimuth of [REDACTED]. The other revetment has walls 80, 40, and 70 feet long, and 10 feet wide at the base; its orientation is [REDACTED].

25X1D Missile equipment was observed in the launch area on [REDACTED] coverages. No apparent changes were observed in the support or guidance areas.

25X1D

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25X1D

FIGURE 11. MOSCOW SAM SITE C17-1.

SAM SITE C17-1

A horseshoe-shaped revetment was identified on the north side of rib road 3A (Figure 11, item 1) on photography of [REDACTED] 25X1D. The revetment has walls 65, 35, and 65 feet

long and approximately 10 feet wide at the base. 25X1D
Orientation of the revetment is [REDACTED]

Missile equipment was observed in the 25X1D
launch area on the [REDACTED] 25X1D
coverages. No changes were apparent
in the support or guidance areas. 25X1D

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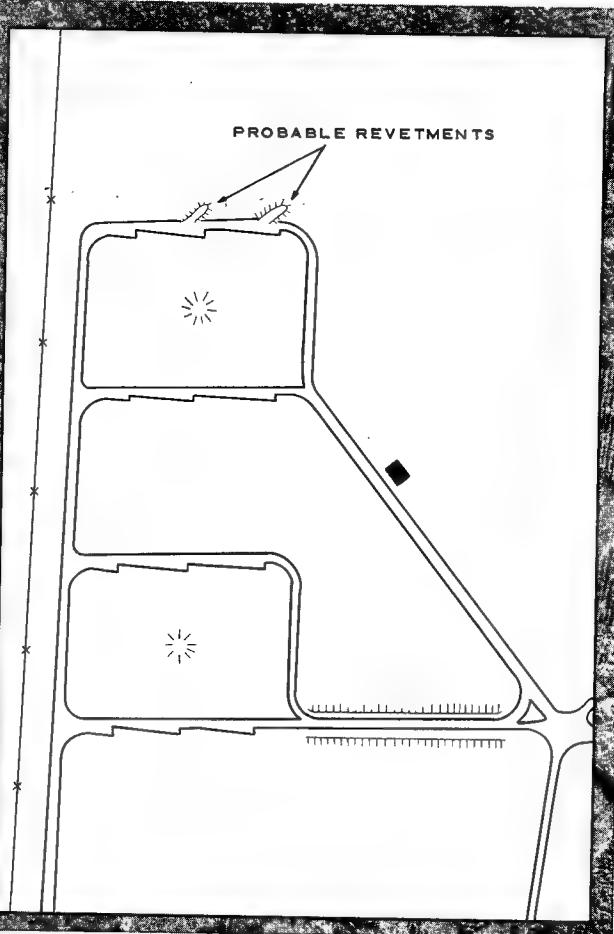
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25X1D

FIGURE 12. MOSCOW SAM SITE C19-1.

NPIC J-6367 (12/64)



SAM SITE C19-1

25X1D On photography of [REDACTED] it was determined that earth had been scraped toward the south side of rib road 5A to form an earthen wall paralleling the road (Figure 12, item 1). The wall is 650 feet long, 20 feet wide at the base, and approximately [REDACTED] feet high. On photography of [REDACTED], approximately [REDACTED] weeks later, the same type of construction was apparent on the north side of the rib road, creating a drive-through revetment 650 feet long, with walls 20 feet wide at the base and an esti-

mated 15 feet high. The distance between the walls is 50 feet, and the orientation of the revetment is [REDACTED] 25X1D

On the same coverage, two probable horseshoe-shaped revetments of undetermined size (item 2) were observed on the south side of the perimeter road. Approximate orientations for these probable revetments are [REDACTED] 25X1D

[REDACTED] 25X1D
No missile equipment was discernible on [REDACTED] coverages, nor were [REDACTED] 25X1D any changes apparent in the guidance or support areas.

25X1D

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25X1D

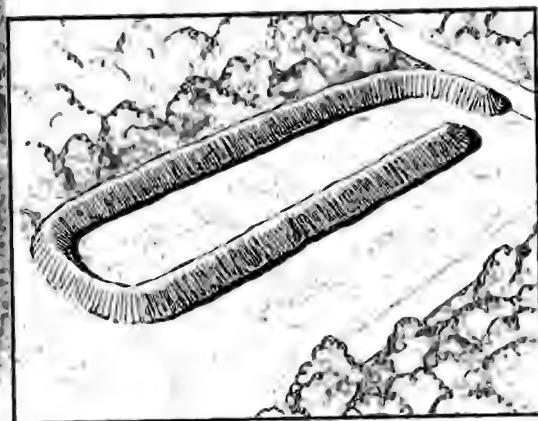
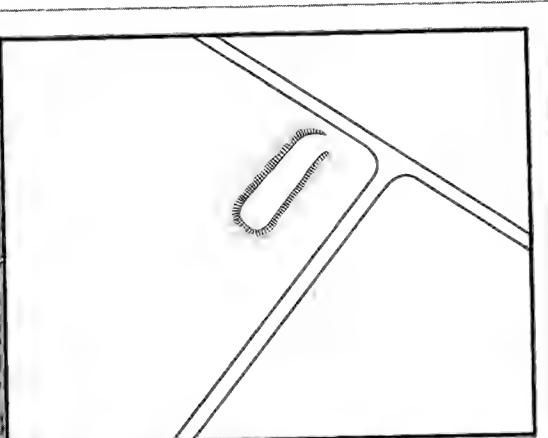


FIGURE 13. MOSCOW SAM SITE C20-1.

25X1D

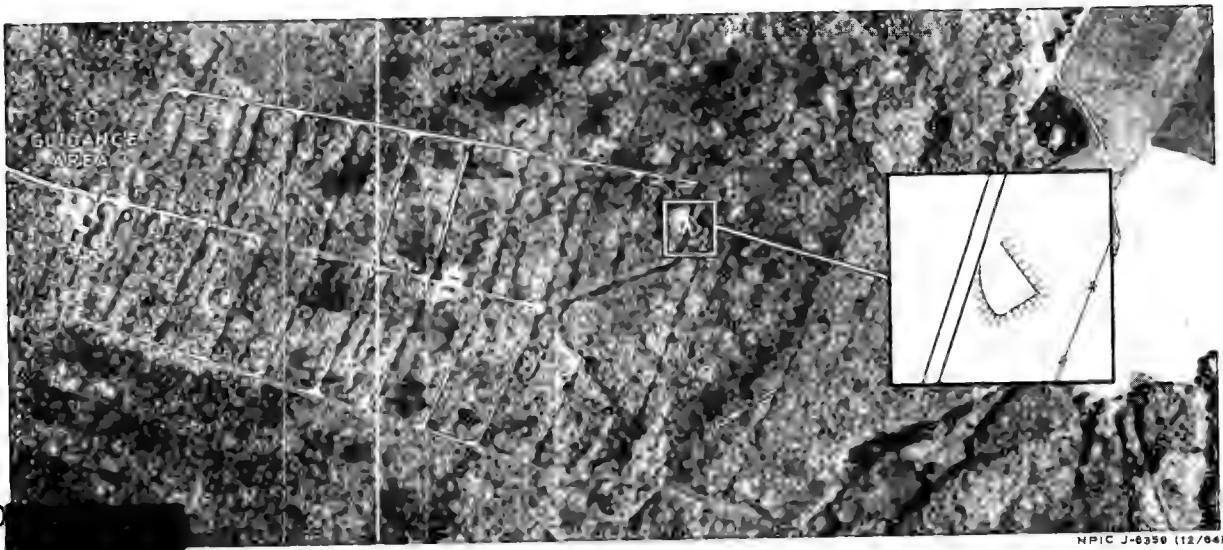


FIGURE 14. MOSCOW SAM SITE C22-1.

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SAM SITE C20-1

25X1D The previously reported cut or excavation at 6A3 has been identified on [REDACTED] photography as a revetment with walls that are 195, 50, and 185 feet long and approximately 15 feet wide at the base (Figure 13, item 1). Orientation of the revetment is [REDACTED] degrees.

25X1D Missile equipment was noted in the launch area on [REDACTED] photography. No changes were apparent in the guidance or support areas.

SAM SITE C22-1

A horseshoe-shaped revetment was identified, on [REDACTED] photography, outside the perimeter road at the southeast corner of the launch area (Figure 14, item 2). Walls of the revetment are 80, 60, and 70 feet long and orientation of the revetment is [REDACTED]

25X1D

No missile equipment was discernible on the [REDACTED] coverages, nor were any changes apparent in the support or guidance areas.

25X1D

25X1D

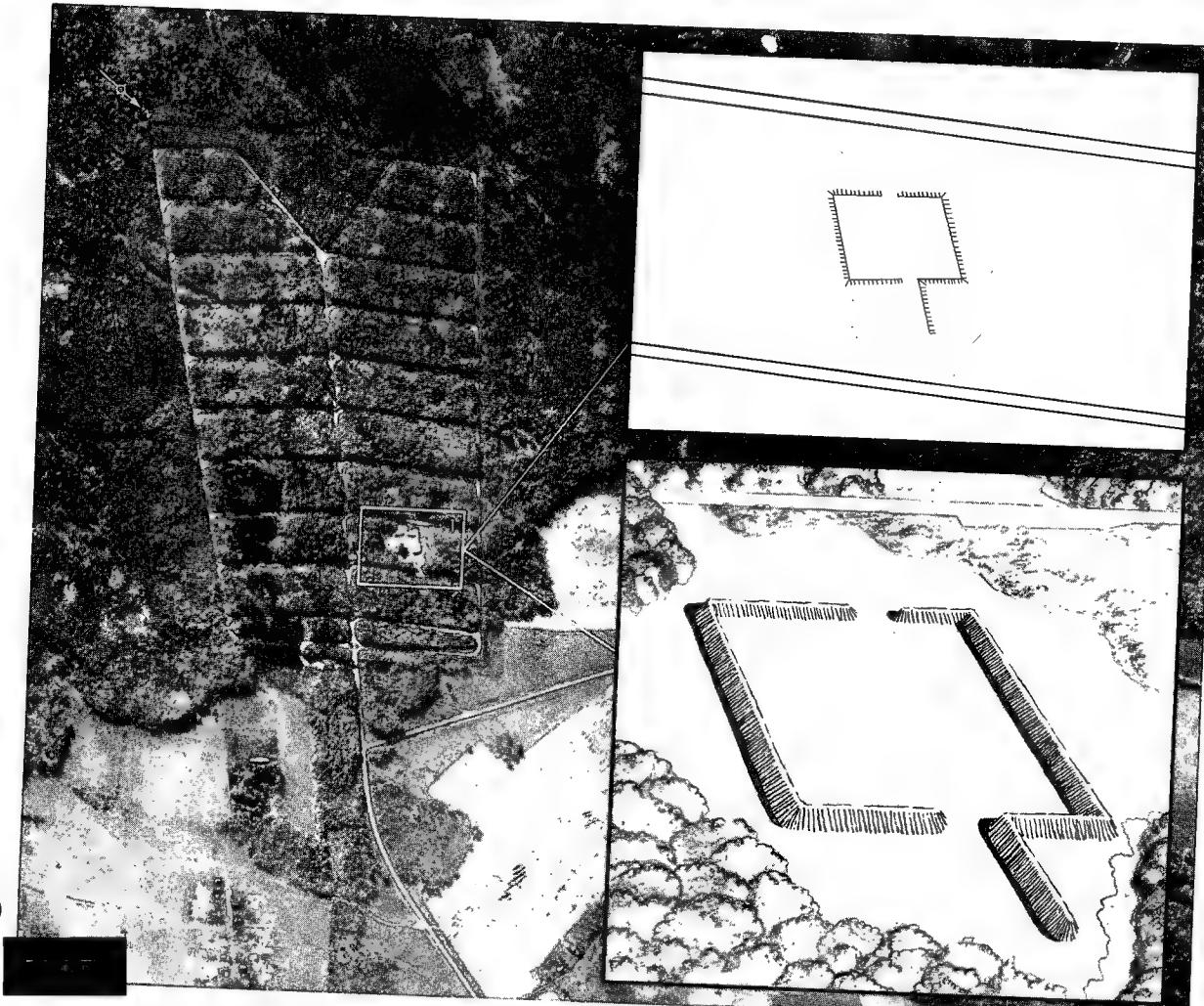


FIGURE 15. MOSCOW SAM SITE C24-1.

NPIC J-6360 (12/64)

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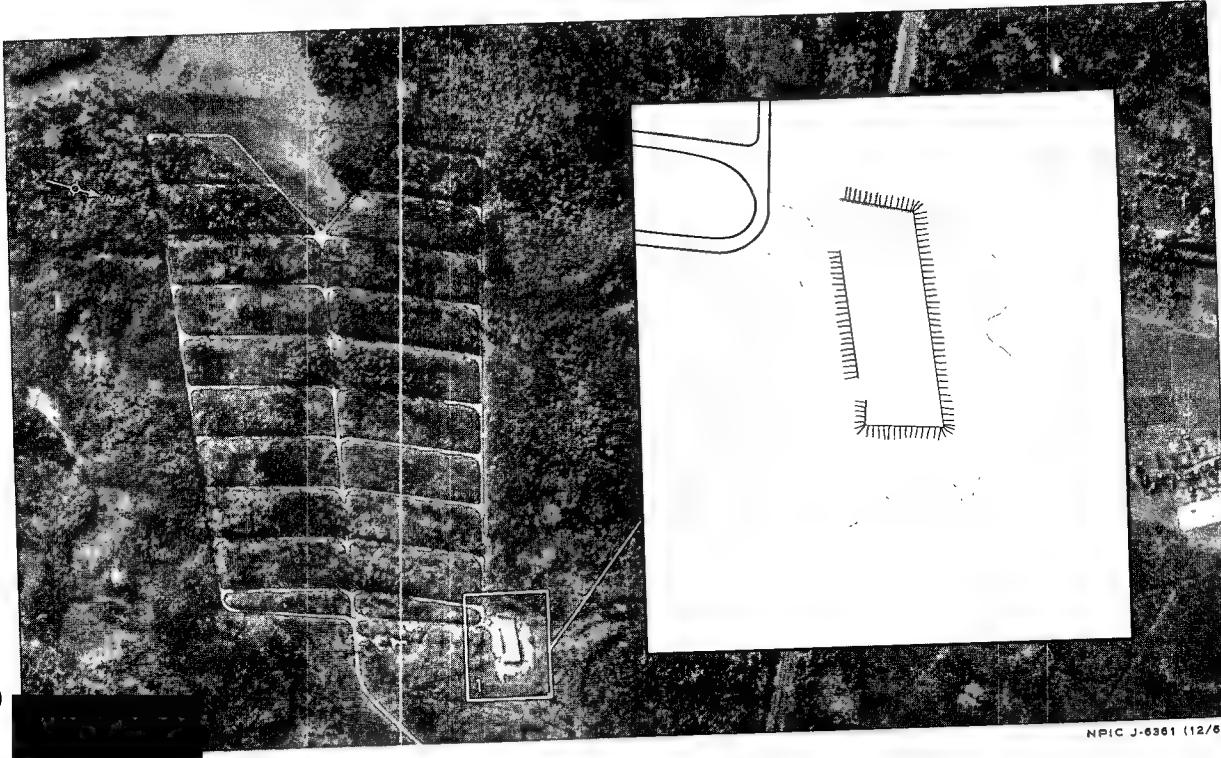


FIGURE 16. MOSCOW SAM SITE C25-1.

NPIC J-6361 (12/64)

SAM SITE C24-1

25X1D There has been no apparent change in the site since [REDACTED] however, subsequent photography permits more precise measurements of the previously reported revetment between rib roads 2B and 3B (Figure 15, item 1).

25X1D The revetment is rectangular with 235- and 190-foot walls which are [REDACTED] feet wide at the base and approximately 15 feet high. Access to rib roads 2B and 3B is provided by 35-foot openings in the east and west walls. 25X1D Orientation of the revetment is [REDACTED] degrees. A 140-foot long wall, 20 feet wide at the base and approximately [REDACTED] feet high, extends northward from the revetment toward rib road 2B.

25X1D No missile equipment was discernible on the [REDACTED] coverages.

SAM SITE C25-1

A generally rectangular revetment under construction was identified on photography of [REDACTED] at the northeast corner of the 25X1D launch area, where ground scarring had previously been reported (Figure 16, item 1). Walls of the revetment are 350, 165, 440, and 150 feet long, 25 feet wide at the base, and an estimated 15 feet high. A 95-foot opening at the southwest corner of the revetment provides access to the launch area; and a second opening, at the opposite end of the south wall of the revetment, is 30 feet wide. Orientation of the revetment is 65/245 degrees.

25X1D No missile equipment was discernible on photography of [REDACTED] 25X1D [REDACTED] No apparent changes were observed in [REDACTED] the support or guidance areas.

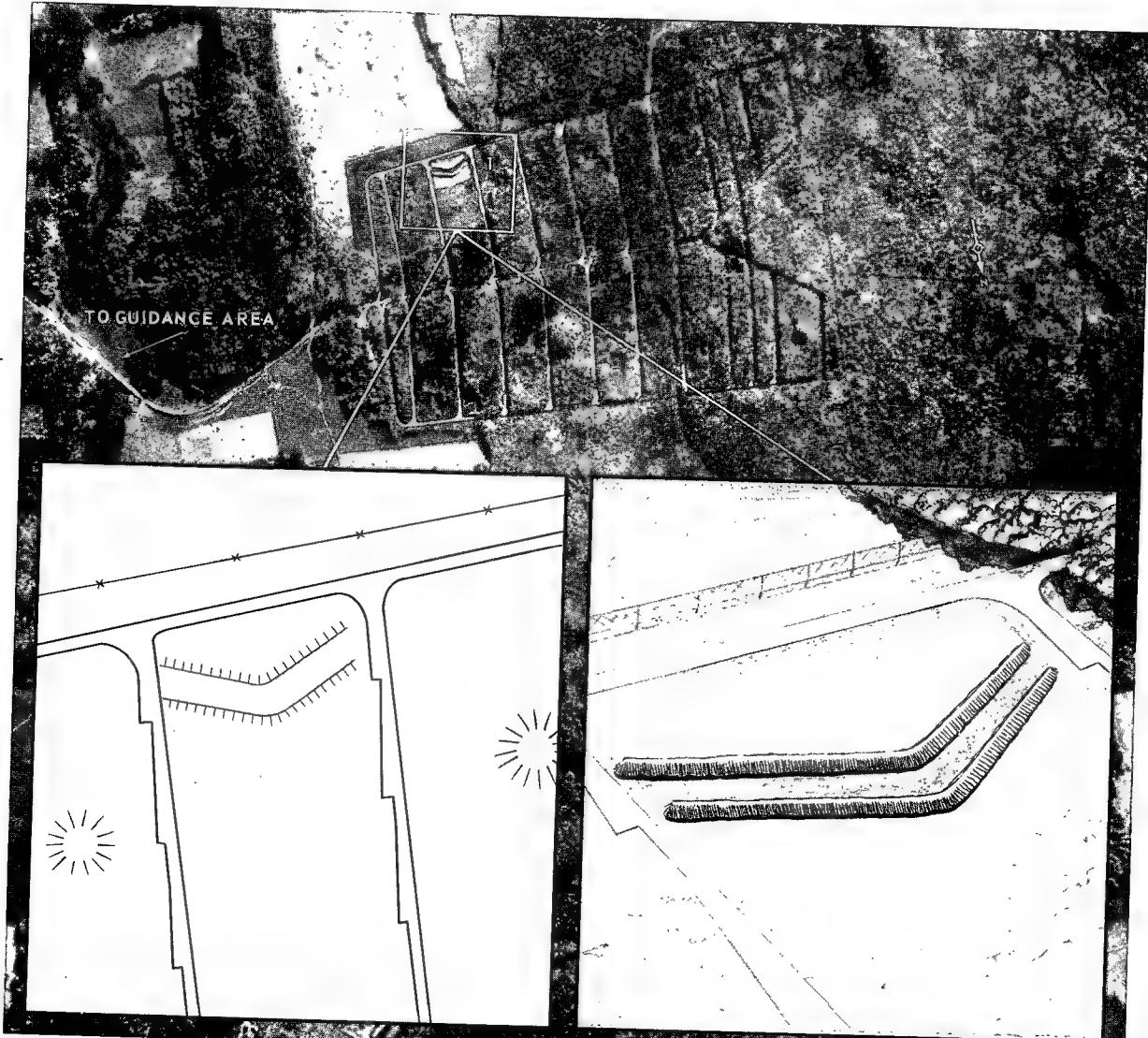


FIGURE 17. MOSCOW SAM SITE C27-1.

NPIC J-6362 (12/64)

SAM SITE C27-1

25X1D Photography of [REDACTED] confirmed the existence of two parallel earthen walls between rib roads 2A and 3A (Figure 17, item 1). The walls have a chevron configuration with segments 190 and 205 feet long, and are [REDACTED] high, and are positioned [REDACTED] apart. Orientation of the 190-foot segment is [REDACTED]

25X1D degrees and of the 205-foot segment is [REDACTED]

25X1D

No changes were apparent in the guidance or support areas. No missile equipment was discernible in the launch area on photography of [REDACTED]

25X1D

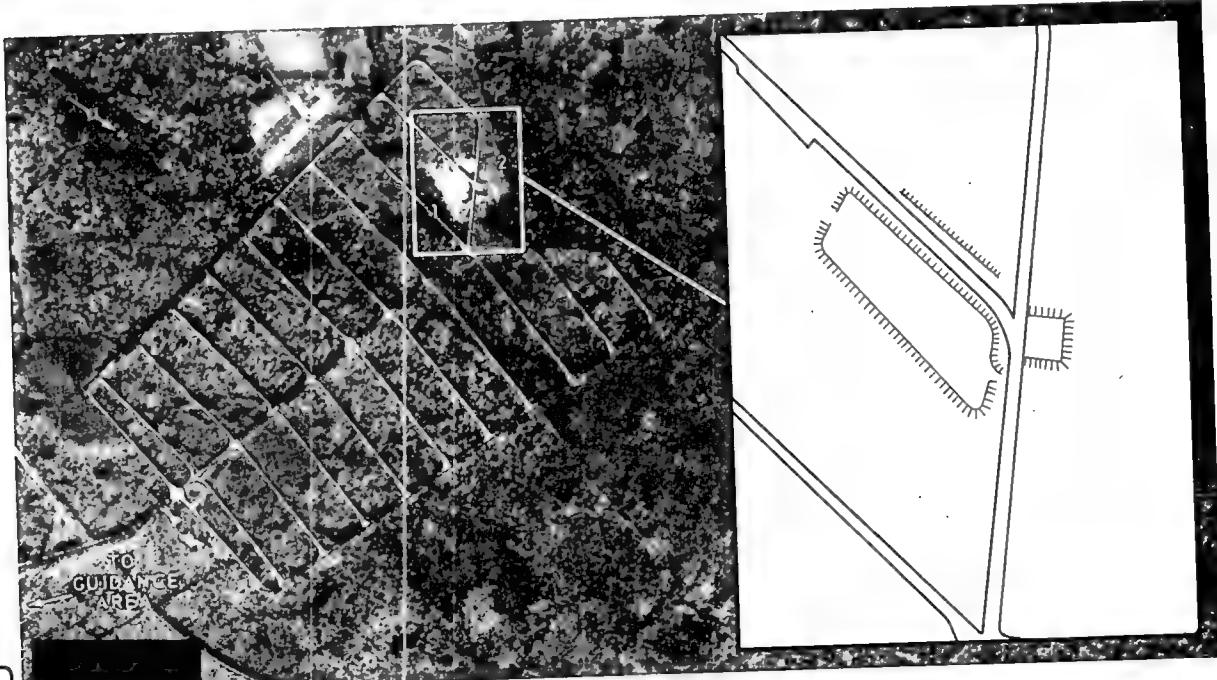
SAM SITE C28-1

No changes have been observed in the site since [REDACTED] however, subsequent photog-

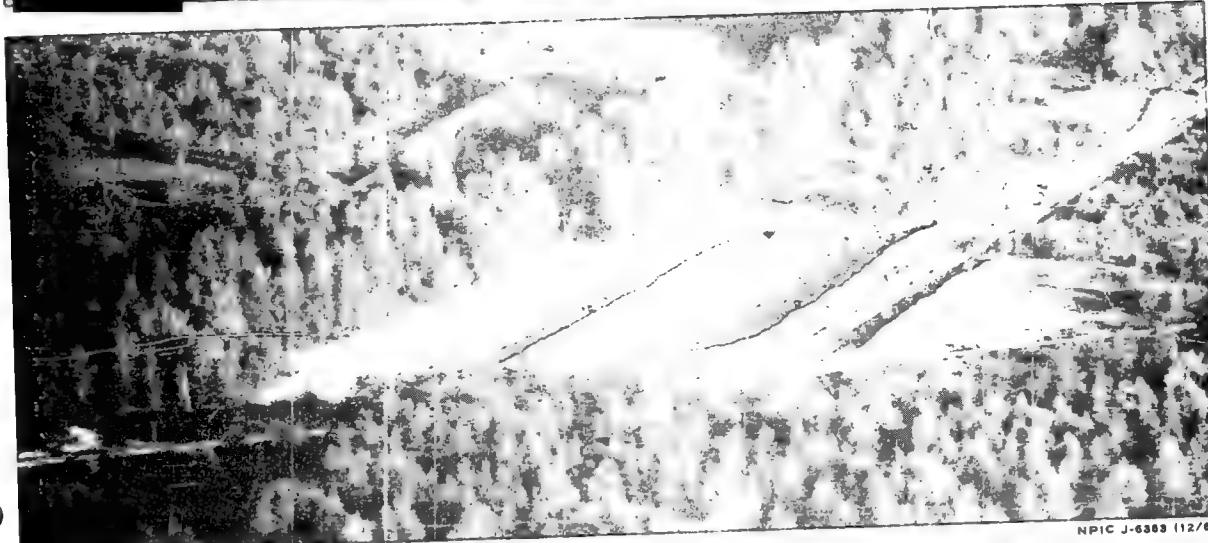
25X1D

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25X1D



NPIC J-6363 (12/64)

FIGURE 18. MOSCOW SAM SITE C28-1.

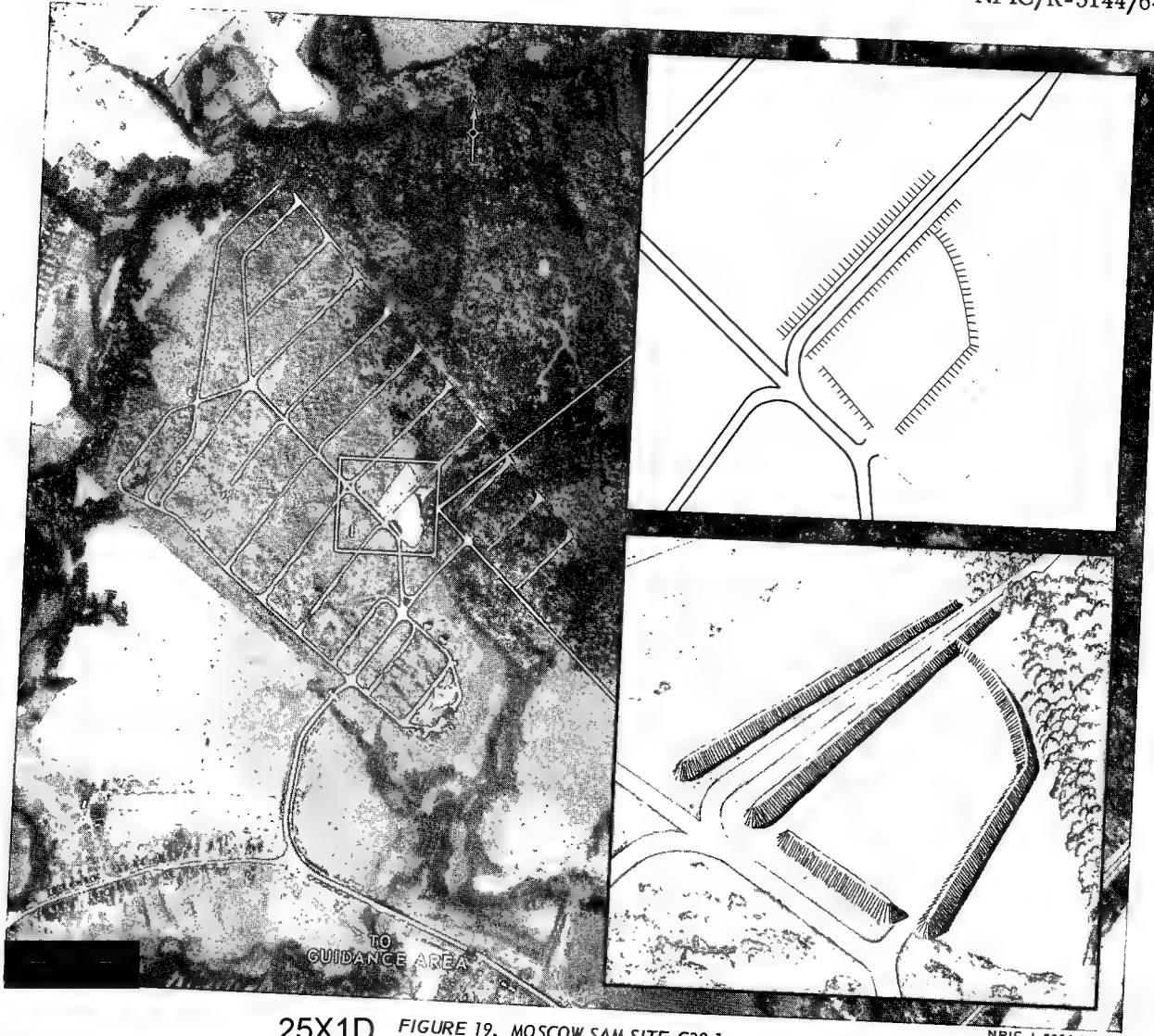
raphy permits refinement of the previously reported measurements of the revetment between rib roads 8A and 9A (Figure 18, item 1). The walls measure 390, 335, 170, and 120 feet in length and all are 20 feet wide at the base and an estimated [redacted]. A 30-foot opening in the north wall provides access to the

perimeter road, and a 20-foot opening in the south wall gives access to rib road 9A. Orientation of the revetment is [redacted]. On the west side of rib road 9A, a 200-foot wall has been constructed parallel to the road, in effect creating a 200-foot drive-through revetment. The wall is 20 feet wide at the base

25X1D

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25X1D 25X1D FIGURE 19. MOSCOW SAM SITE C30-1.

NPIC J-6364 (12/64)

25X1D and approximately [REDACTED] Orientation
25X1D of the revetment is [REDACTED]. Large-
25X1D scale photography of [REDACTED] shows that
these revetments are constructed by pushing
earth up from the nearby area to produce
the earthen walls.

25X1D Across the perimeter road (item 2) there
25X1D is a U-shaped revetment with walls 60, 65,
and 60 feet long, 20 feet wide at the base, and
approximately [REDACTED]. Orientation of
25X1D the revetment is [REDACTED]

No missile equipment was discernible in
the launch area on the coverage of [REDACTED]

25X1D

SAM SITE C30-1

A revetment was identified on photography
of [REDACTED] in the area of previously re-
ported ground scarring on the south side of rib
road 3B (Figure 19, item 1). Walls of the re-
vetment are 455, 160, 255, and 230 feet long,
[REDACTED] wide at the base, and approximately 15

25X1D

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25X1D

FIGURE 20. MOSCOW SAM SITE C33-1.

25X1D feet high. Orientation of this revetment is [REDACTED] Two 20-foot openings in the western wall of the revetment provide access to the interior from the centerline road. Across rib road 3B, a 465-foot earthen wall has been constructed parallel to the rib road and the 455-foot wall of the other revetment. Distance between the two walls is 55 to 60 feet, and orientation of the drive-through revetment so created is [REDACTED]

25X1D No missile equipment was discernible on the [REDACTED] coverage, nor had there been any apparent changes in the support or guidance areas since [REDACTED]

SAM SITE C31-1 (NO FIGURE)

25X1D No changes have been observed at this site since [REDACTED] Missile equipment

25X1D was identified in the launch area on [REDACTED]

25X1D [REDACTED]

SAM SITE C33-1

A horseshoe-shaped revetment with walls 80, 45, and 80 feet long was observed on [REDACTED] 25X1D photography in the previously reported 25X1D scarred area at the northwest corner of the launch area, outside the perimeter road (Figure 20, item 1). Orientation of this revetment is [REDACTED] 25X1D

An L-shaped earthen revetment was also observed between rib roads 2A and 3A (item 2) in an area of earth scarring that has been present since [REDACTED] 2/ To compose the base of the L, parallel walls have been constructed on opposite sides of rib road 3A, the northern wall being 455 feet long, the southern one 375 feet long, and the two being 55 feet apart. The stem of the L-shaped revetment is perpendicular to rib roads 2A and 3A, with an opening at the northwest corner to per-

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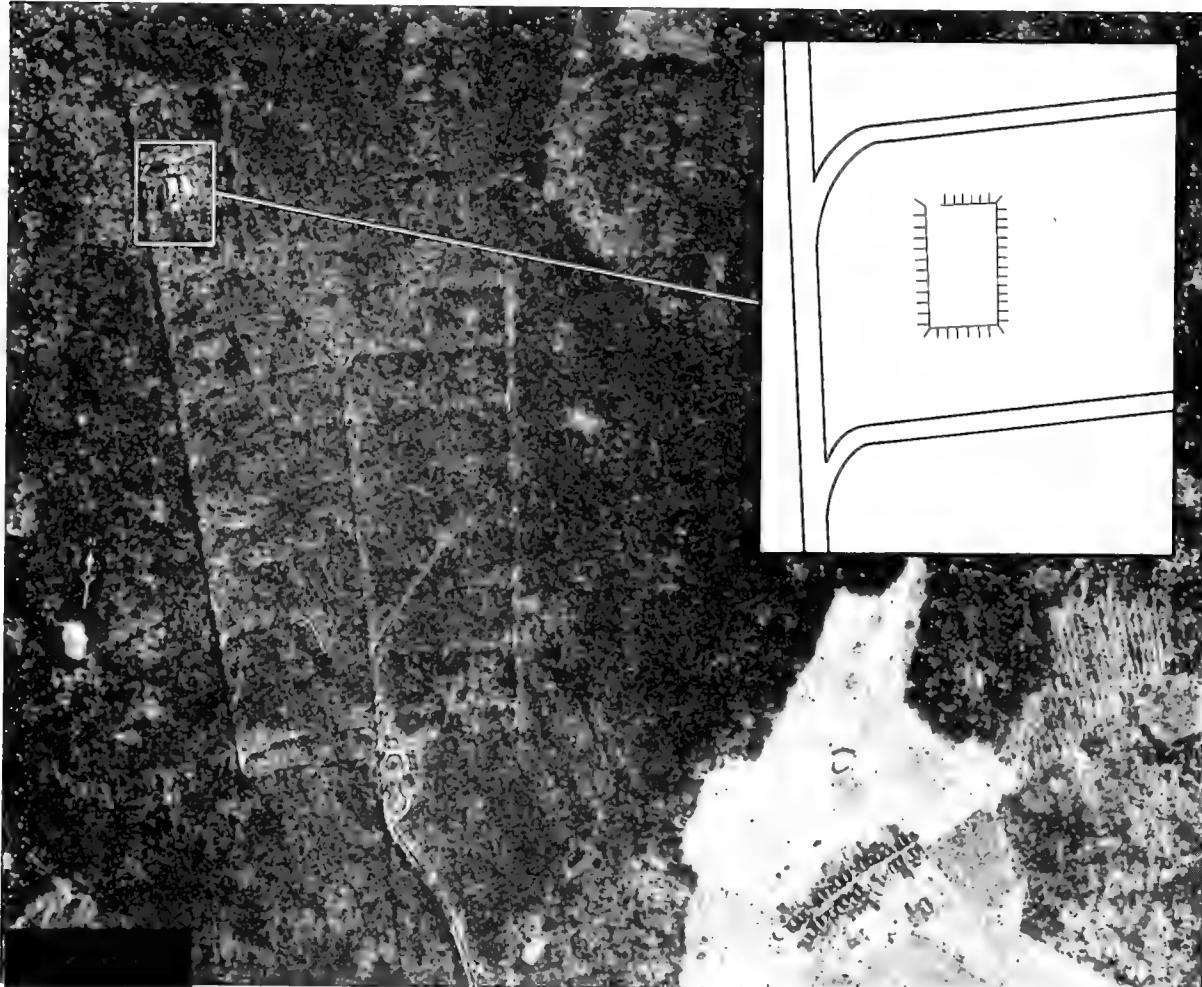


FIGURE 21. MOSCOW SAM SITE C35-1.

mit rib road 3A to pass through. The western wall of the stem is 505 feet long and the eastern wall is 450 feet long. Orientation of the base is
25X1D [REDACTED] and of the stem [REDACTED]

25X1D Missile equipment was observed in the launch area on [REDACTED] photography. No changes were apparent in the support or guidance areas.

SAM SITE C35-1

25X1D A U-shaped earthen wall had been constructed by [REDACTED] on the west side of

the previously reported earthen wall 1/ between rib roads 10A and 11A (Figure 21, item 1), in effect creating a four-sided revetment with two walls 205 feet long and two 120 feet long. Walls are 20 feet wide at the base and estimated to be [REDACTED]. A 30-foot opening in the north wall provides access into the revetment, whose orientation is [REDACTED]

25X1D

No changes were apparent in the support or guidance areas. Missile equipment was not discernible on the [REDACTED] coverage.

25X1D

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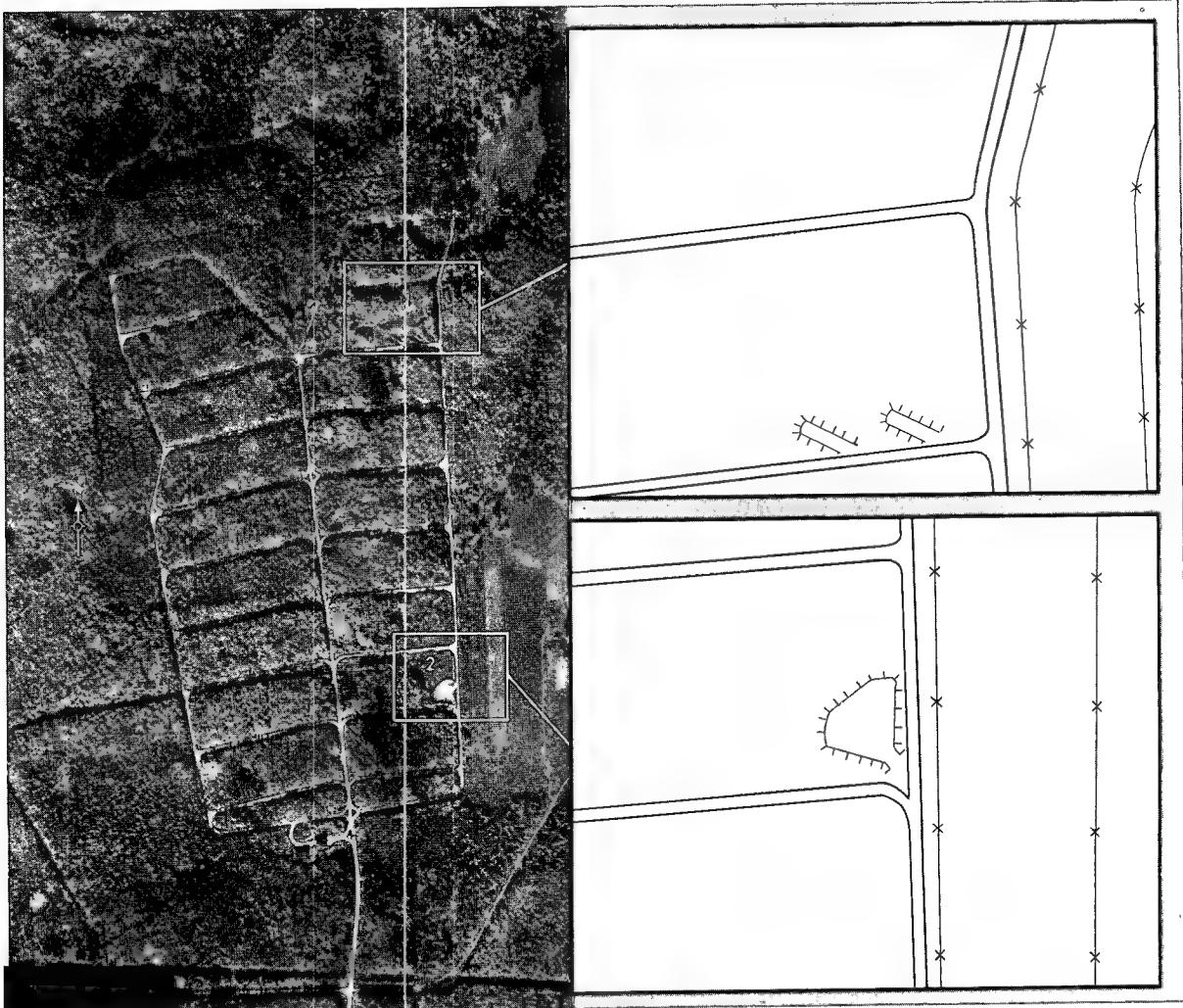


FIGURE 22. MOSCOW SAM SITE C36-1.

SAM SITE C36-1

25X1D Photography of [REDACTED] permits refinement of the mensural data previously reported for the revetments between rib roads 8B and 9B (Figure 22, item 1). One revetment is 140 feet long, the second is 130 feet long and both have walls 20 feet wide at the base and approximately [REDACTED]. Orientations of the two revetments are [REDACTED] degrees, respectively.

An irregular earthen revetment was also observed on the [REDACTED] photography in the previously reported scarred area between rib roads 2B and 3B (item 2). The five-sided revetment has walls 200, 185, 175, 85, and 75 feet long; all are 20 feet wide at the base and approximately [REDACTED]

25X1D

Missile equipment was not discernible on either the [REDACTED] coverages. No changes were apparent in the support or guidance areas.

25X1D

25X1D

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TOP SECRET CHESS RUFF

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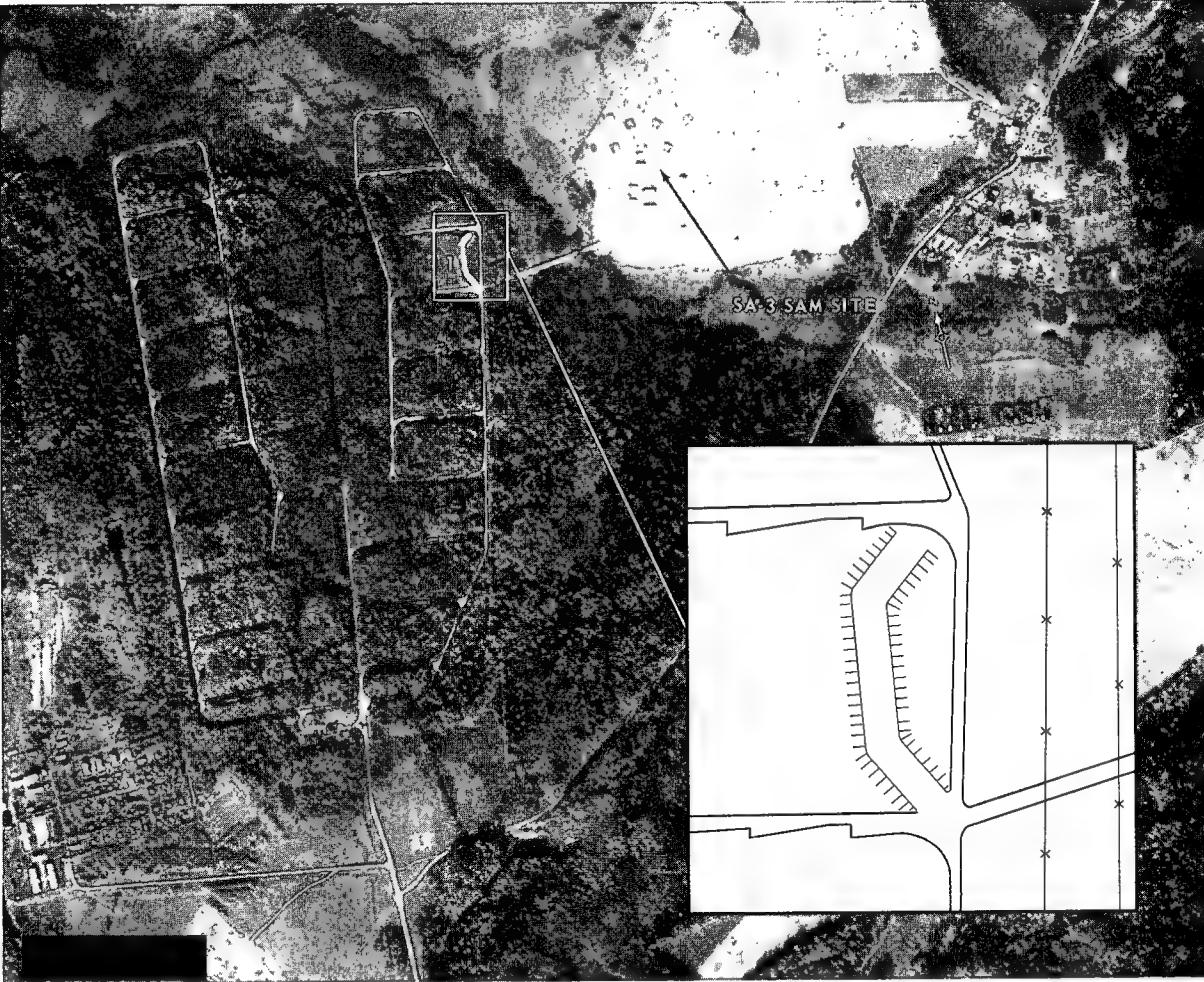


FIGURE 23. MOSCOW SAM SITE E01-1.

SAM SITE E01-1

A second earthen wall was observed, on 25X1D photography of [REDACTED] parallel to a previously reported wall 1/ between rib roads 7B and 8B (Figure 23, item 1). The construction of this wall creates a drive-through revetment with walls 20 feet wide at the base, [REDACTED] high, and 65 feet apart. The revetment is constructed of straight sections of wall so arranged as to give the overall revetment a semicircular configuration. Measurements for sections of

the west wall are 125, 260, and 140 feet; sections of the east wall measure 115, 210, and 115 feet. Orientation of the revetment is [REDACTED] 25X1D degrees.

Missile equipment was observed in the [REDACTED] launch area on the [REDACTED] 25X1D 25X1D missions. No apparent changes were observed in the guidance or support areas.

An SA-3 SAM site of the F configuration has been constructed 1,635 feet east of the revetment. This site was not present on photography of [REDACTED] 25X1D

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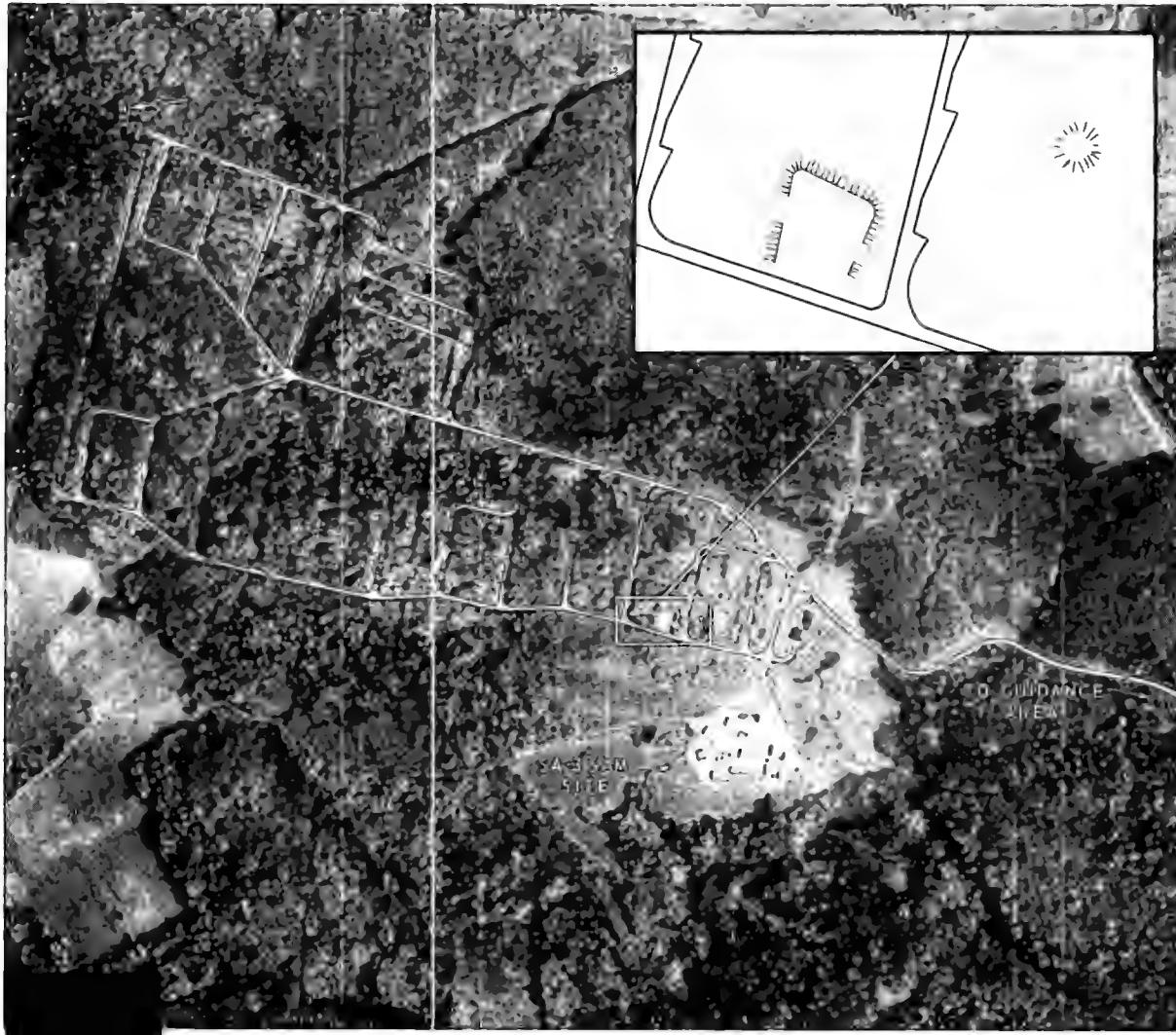


FIGURE 24. MOSCOW SAM SITE E02-1.

SAM SITE E02-1

A U-shaped earthen revetment (Figure 24, item 1) has been identified on photography of [REDACTED] in the previously reported clearing between rib roads 2A and 3A. Walls of the revetment are 195, 175, and 155 feet long, 20 feet wide at the base, and approximately

25X1D [REDACTED] Approximate orientation of the
25X1D [REDACTED] revetment is [REDACTED]

No missile equipment was discernible on the [REDACTED] coverages. 25X1D
No changes were observed in the guidance or support areas.

An SA-3 SAM site of the F configuration was first observed on the [REDACTED] 25X1D photography adjacent to the southwest corner of the SA-1 launch area. The site was not present on the [REDACTED] 25X1D



FIGURE 25. MOSCOW SAM SITE E03-1.

SAM SITE E03-1

Two parallel earthen walls (Figure 25, item 1) had been constructed by [REDACTED] between rib roads 3B and 4B in the area of previously reported scarring observed on [REDACTED] coverage. 1/ Walls are 435 feet long, 20 feet wide, and approximately [REDACTED] forming a drive-through revetment with an orientation of [REDACTED]

Two parallel earthen walls were observed on [REDACTED] photography on opposite sides of rib road 4A (item 2). The walls are 310 feet long, 20 feet wide at the base, and

approximately [REDACTED] and were constructed by scraping earth up along both edges of the road to form a drive-through revetment oriented [REDACTED]

Missile equipment was observed within the launch area on the [REDACTED] [REDACTED] coverages. No changes were apparent in the support or guidance areas.

SAM SITE E04-1 (NO FIGURE)

The two areas of scarring observed in the launch area on photography of [REDACTED] [REDACTED] appear indistinct on the [REDACTED] [REDACTED] coverage, indicating that the scarred areas [REDACTED]

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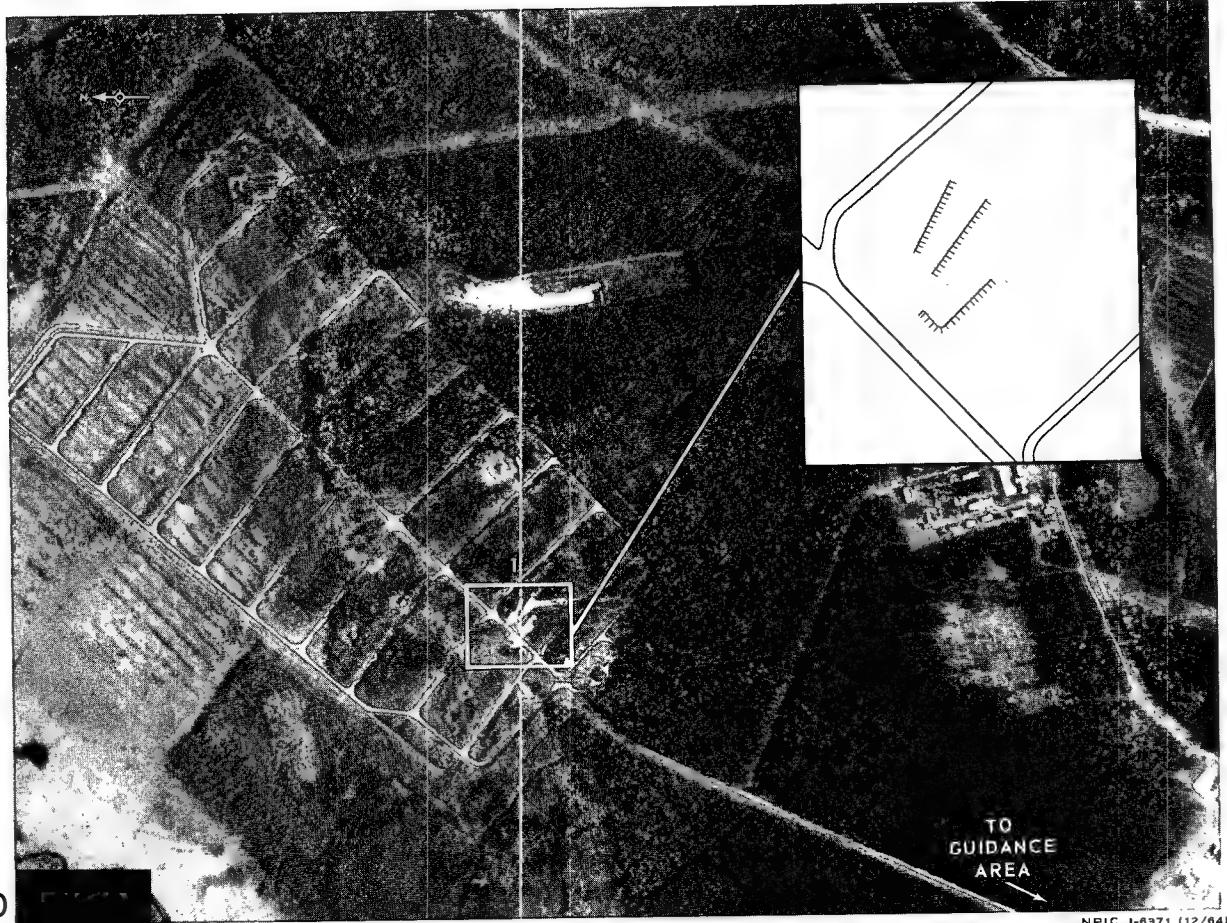


FIGURE 26. MOSCOW SAM SITE E06-1.

have probably been overgrown by vegetation. Missle equipment was observed within the launch areas on the [REDACTED]

[REDACTED] No changes were observed in the support or guidance areas.

SAM SITE E05-1
(See page 47)

SAM SITE E06-1

On photography of [REDACTED] two straight earthen walls and an L-shaped earthen wall (Figure 26, item 1) were identified in the previously reported scarred area between rib roads 1B and 2B. The stem

of the L-shaped wall is 140 feet long and the base is 40 feet long; one straight wall is 200 feet long, and the other is 185 feet long.

Missle equipment was observed in the launch area on the [REDACTED] photography. No changes were observed in the support or guidance areas.

25X1D

SAM SITE E07-1 (NO FIGURE)

No changes were apparent in the launch, guidance, or support areas since [REDACTED] No missle equipment was discernible in the launch area on [REDACTED] photog- 25X1D raphy.

25X1D

25X1D

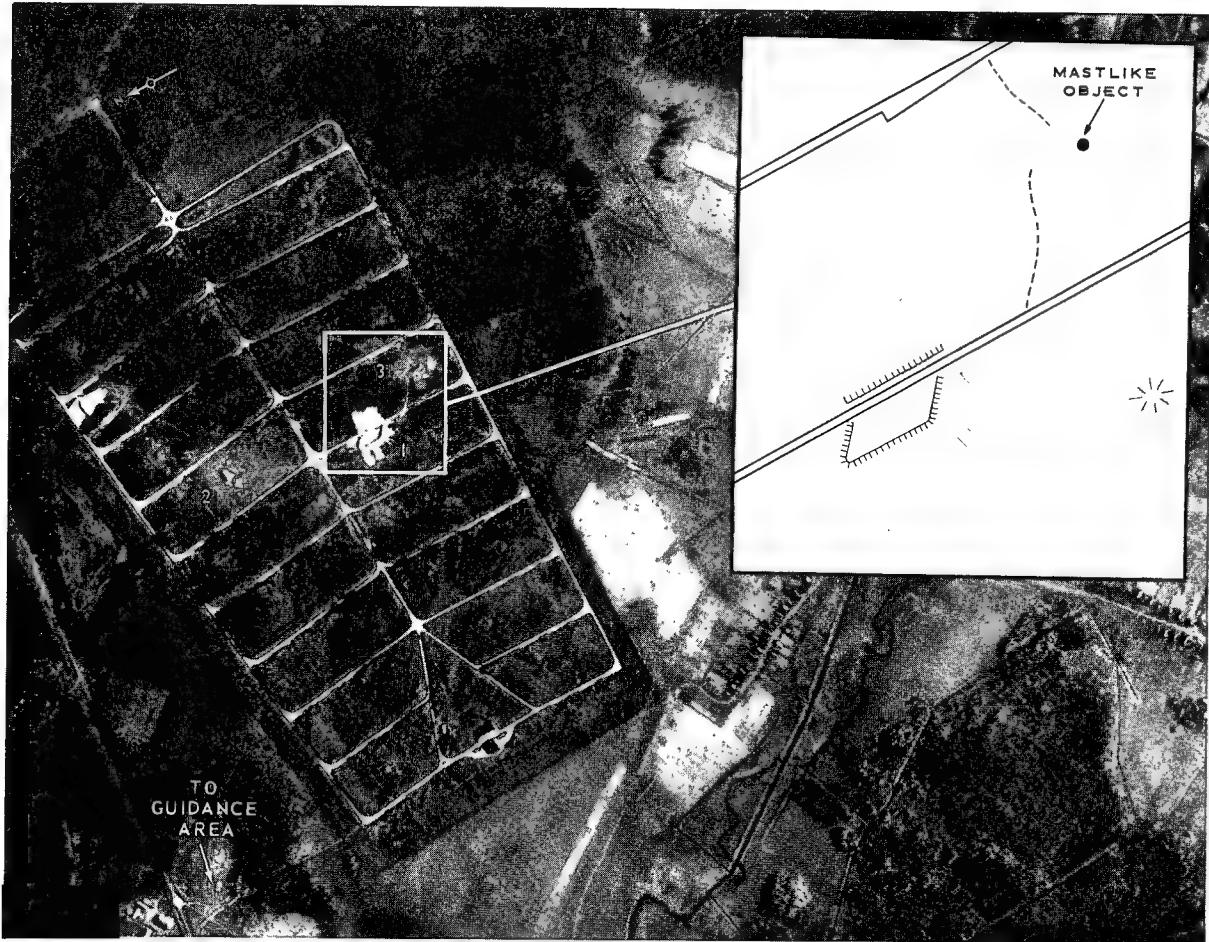
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FIGURE 27. MOSCOW SAM SITE E08-1.

NPIC J-6972 (12/64)

SAM SITE E08-1

Reanalysis of the revetment on the west side of rib road 5B (Figure 27, item 1) reveals that the revetment is a parallelogram with two 220-foot and two 110-foot walls. The walls are 20 feet wide at the base and approximately [REDACTED]. The revetment was constructed by building three connecting walls on the west side of the road and a fourth wall across the rib road, permitting the rib road to provide a drive-through capability. This wall is 110 feet long and approximately [REDACTED]. Orientation of the re-

vetment is [REDACTED] 25X1D

Photography since [REDACTED] shows that construction on the previously reported probable roads connecting rib roads 5A and 6A has not progressed and was probably merely a linear ground scar (item 2). Photography of [REDACTED] revealed a mastlike object centered between rib roads 5B and 6B (item 3). 25X1D

Missile equipment was observed in the launch area on [REDACTED] photography. No changes were observed in the support or guidance areas. 25X1D

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25X1D

SAM SITE E10A-1

25X1D A large revetment was identified on [REDACTED]

25X1D [REDACTED] photography in the previously reported scarred area 1/ between rib roads 5B and 6B (Figure 28, item 1). Walls of the revetment are of earthen construction and measure 245, 255, 260, and 255 feet in length, 20 feet wide at the base, and approximately 10 feet high. Two 30-foot openings, one in the west and one in the east wall, provide road access to rib roads 5B and 6B. Orientation of the revetment is [REDACTED] degrees.

25X1D On the same coverage, an earthen wall is apparent, constructed around a structure on the north side of the centerline between rib roads 2A and 3A (item 2). The U-shaped wall has segments measuring 85, 90, and 70 feet in length, and the walls are [REDACTED]

at the base and an estimated [REDACTED]

Earth had been scraped up to an undetermined height on both sides of rib road 9A,

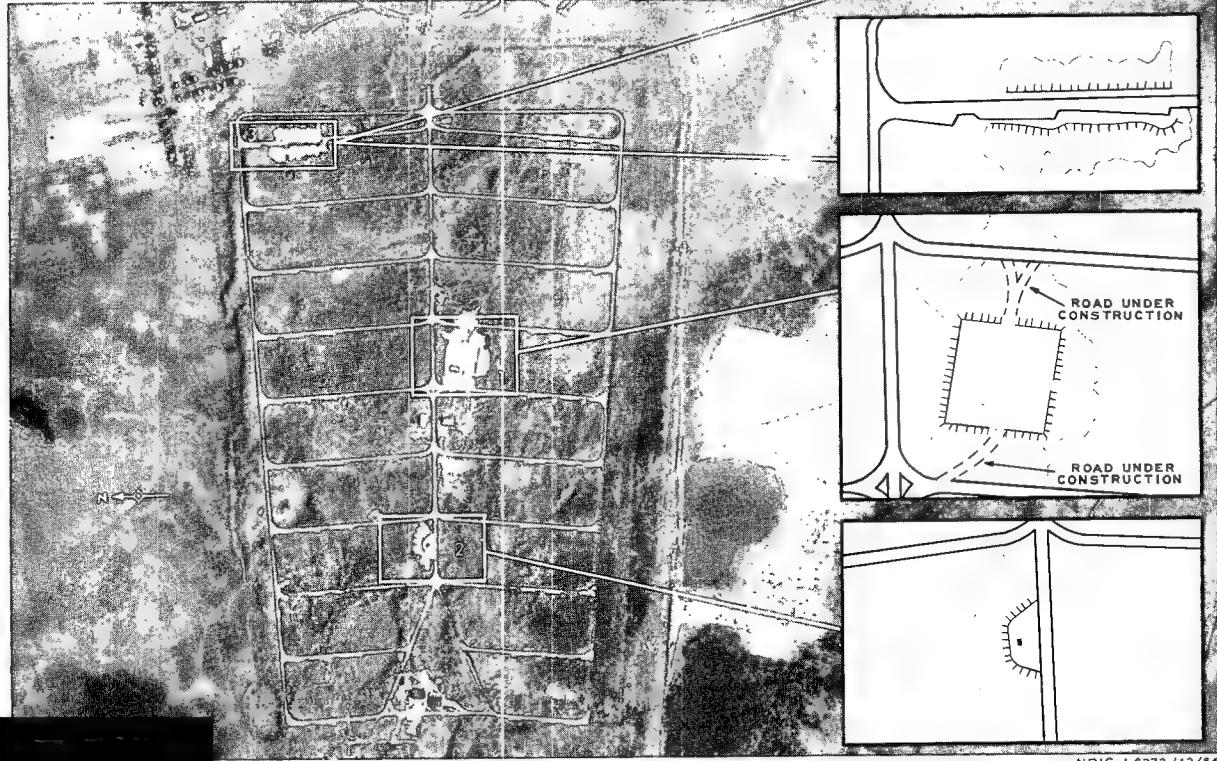
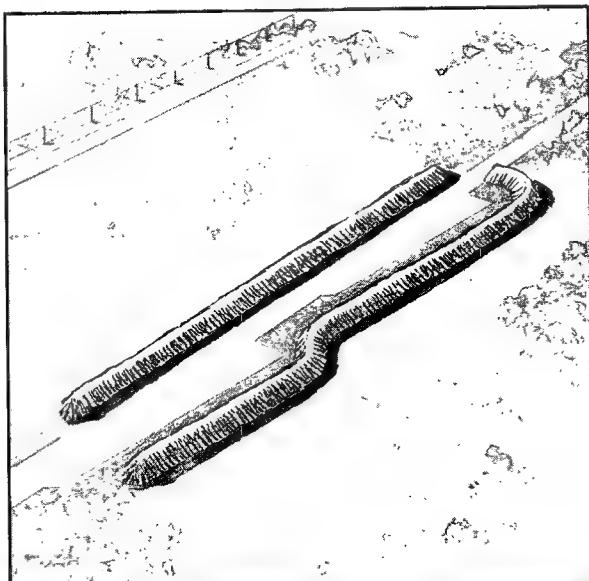


FIGURE 28. MOSCOW SAM SITE E10A-1.

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FIGURE 29. MOSCOW SAM SITE E10-1.

25X1D forming parallel earthen walls approximately 350 feet long (item 3), by [REDACTED]. These walls bracket launch positions 9A1 and 9A2, (see perspective) and create a drive-through revetment with an orientation of [REDACTED]

25X1D [REDACTED] Missile equipment was observed in the launch area on coverages of [REDACTED]

25X1D [REDACTED] 25X1D SAM SITE E10-1

25X1D On photography of [REDACTED] a U-

shaped earthen revetment was identified on the west side of rib road 1A (Figure 29, item 2). The revetment walls are 110, 190, and 115 feet long, 20 feet wide at the base, and approximately 15 feet high. Orientation of the revetment is [REDACTED]

25X1D

25X1D Missile equipment was observed in the launch area on [REDACTED] photography. No changes were apparent in the support or guidance areas.

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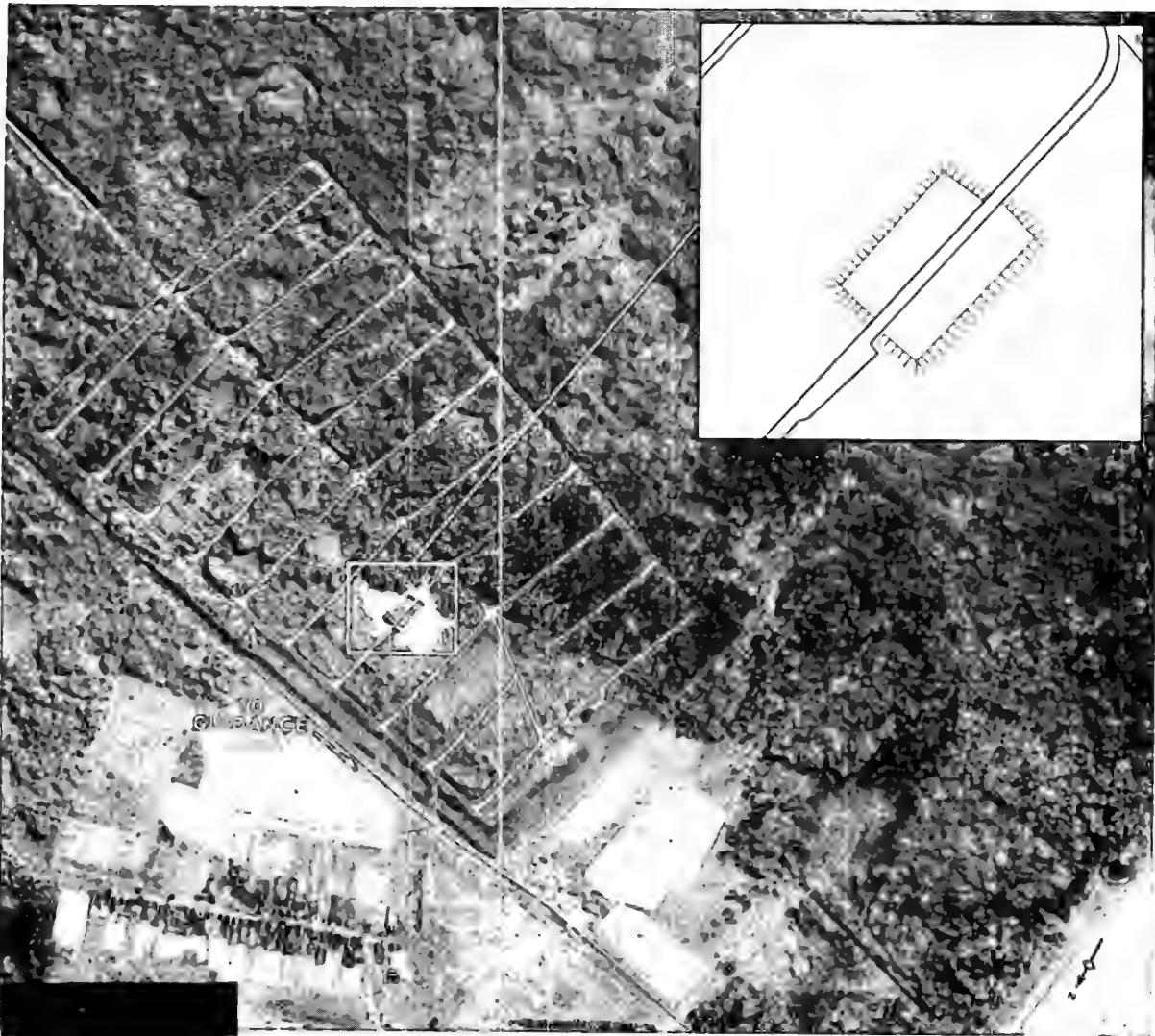


FIGURE 30. MOSCOW SAM SITE E12-1.

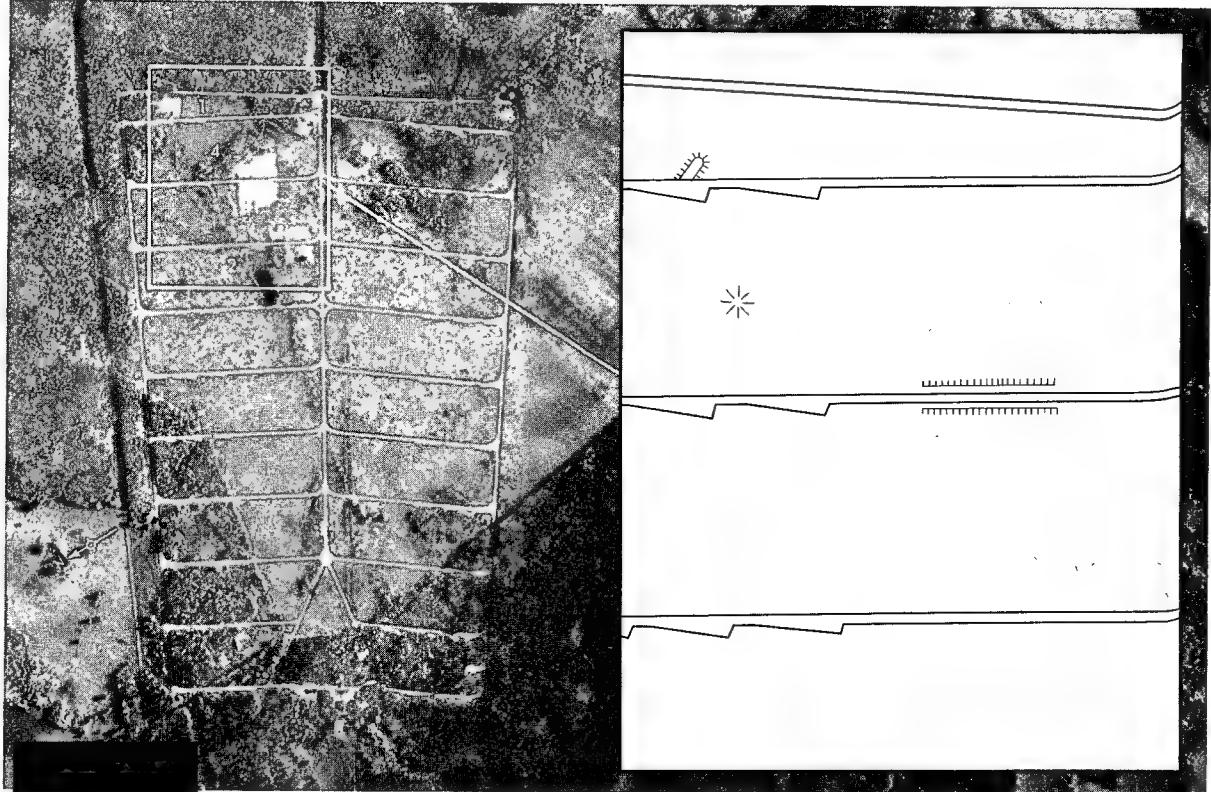
SAM SITE E12-1

25X1D On photography of [REDACTED] U-shaped earthen revetments were observed on opposite sides of rib road 3A (Figure 30, item 1) in the previously reported scarred area. 1/ The revetment on the west side of the rib road has walls 90 by 310 by 90 feet, 20 feet wide at the base, and estimated to be [REDACTED] Its eastern counterpart has walls

95, 285, and 95 feet long, 20 feet wide at the base and approximately [REDACTED] By 25X1D utilizing the existing rib road, a drive-through revetment has been built that is 310 feet long by 235 feet wide. Orientation of the revetment [REDACTED]

25X1D No changes were observed in the support or guidance areas. Missile equipment was 25X1D observed in the launch area on the [REDACTED] 25X1D coverage.

25X1D



25X1D

FIGURE 31. MOSCOW SAM SITE E13-1.

NPIC J-6376 (12/64)

SAM SITE E13-1

25X1D A horseshoe-shaped revetment was identified on photography of [REDACTED] in the previously reported scarred area 1/ between rib road 9A and the perimeter road (Figure 31, item 1). The revetment walls are 100, 50, and 100 feet in length and 20 feet wide at the base. The interior space between the two 100-foot walls is 20 feet wide; orientation of the revetment is [REDACTED] degrees.

On the same coverage it was evident that additional scarring had occurred on the west side of rib road 7A opposite the previously reported scarred area (item 2). At other sites this type of activity preceded construction

of earthen walls on either side of the rib road. Orientation of the rib road, which would provide access to a subsequent drive-through revetment, is [REDACTED]

25X1D

Also on the same coverage, earth scarring was observed on opposite sides of rib road 8A (item 4). On subsequent coverages of [REDACTED] [REDACTED], parallel earthen walls were identified on opposite sides of the road, creating a drive-through revetment 300 feet long with walls 20 feet wide at the base. Orientation of the revetment is [REDACTED] degrees.

No missile equipment was observed in the launch area between [REDACTED] [REDACTED] nor were changes observed in the support or guidance areas.

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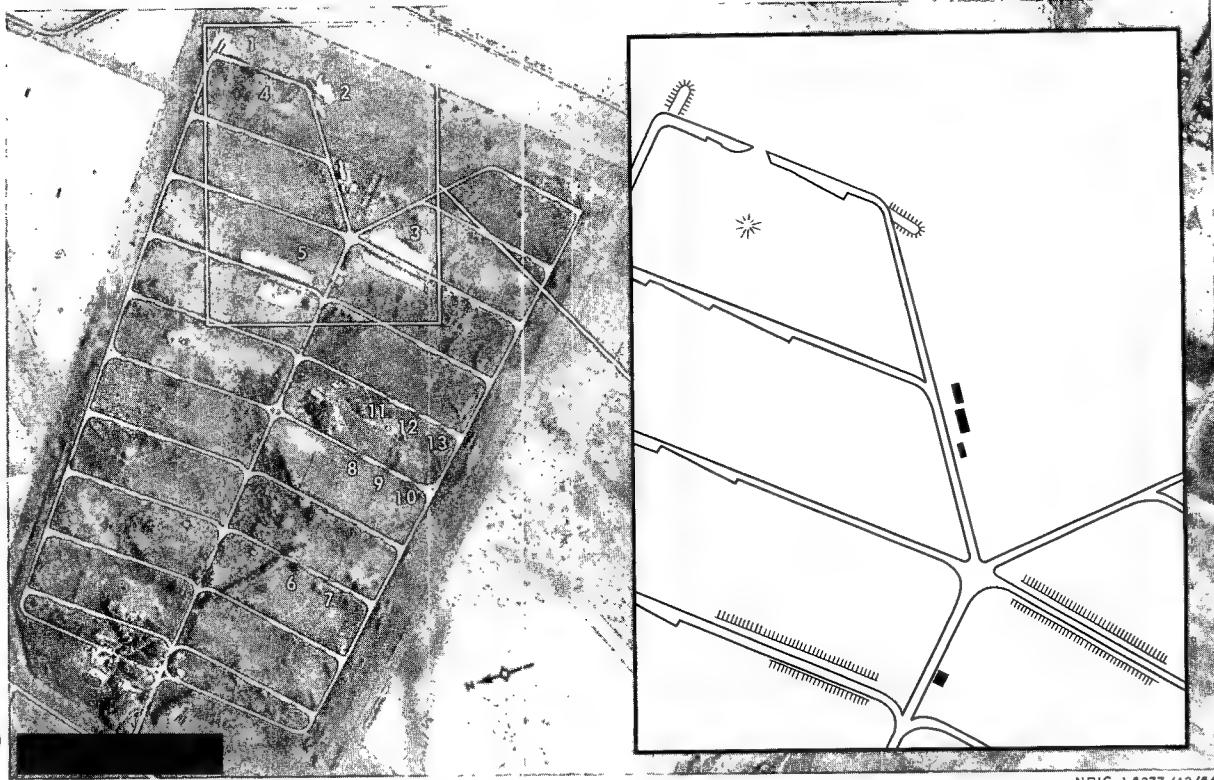


FIGURE 32. MOSCOW SAM SITE E14-1.

SAM SITE E14-1

25X1D Photography of [REDACTED] confirmed the existence of a horseshoe-shaped revetment at the northeast corner of the launch area (Figure 32, item 1). The revetment walls are 100, 50, and 95 feet long, [REDACTED] at the base, and an estimated [REDACTED]. Orientation of the revetment is [REDACTED] degrees.

25X1D A second horseshoe-shaped revetment (item 2) was identified on the same photography 820 feet south of item 1, in the previously reported scarred area outside the perimeter road. Walls are 100, 45, and 110 feet long, and orientation of the revetment is [REDACTED].

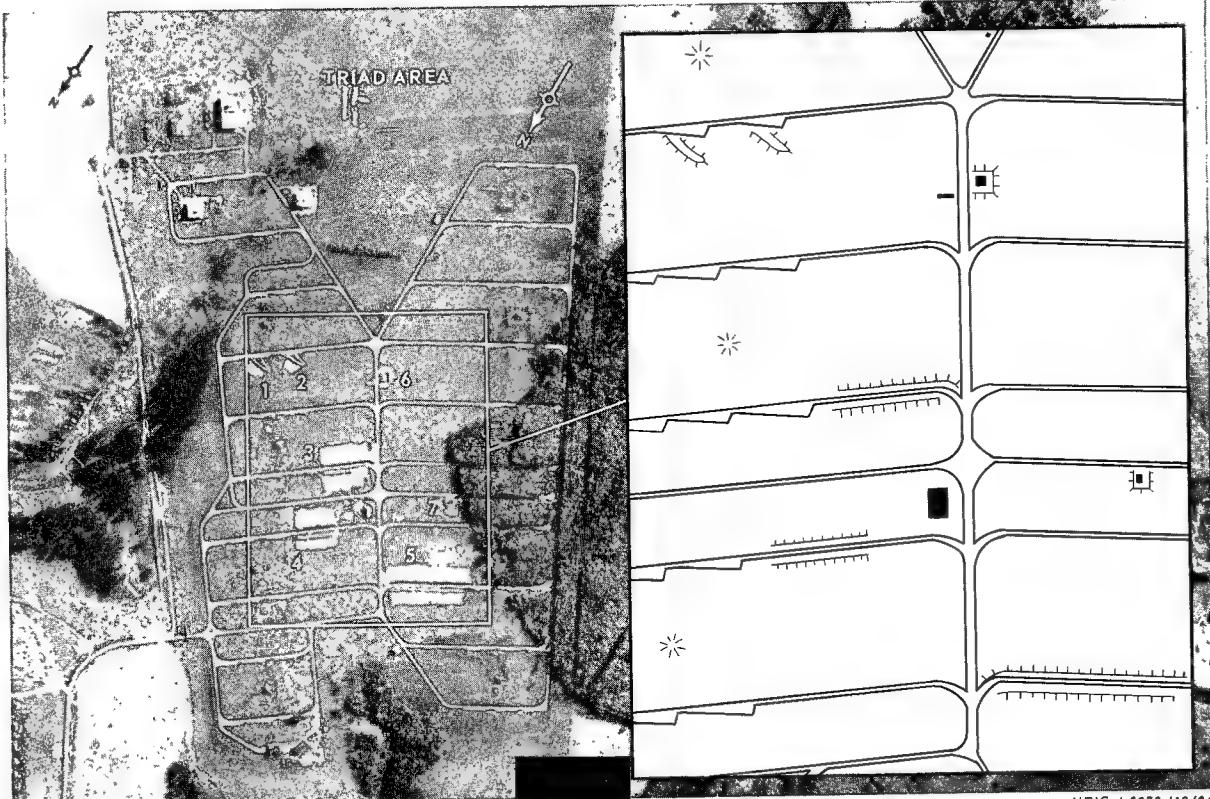
25X1D Parallel earthen walls (item 3) were identified on opposite sides of rib road 8B. The walls were constructed by pushing earth up on both

sides of the road, creating a drive-through revetment 520 feet long with walls 20 feet wide at the base. Orientation of the revetment is [REDACTED]

25X1D Two parallel earthen walls have also been constructed on opposite sides of rib road 7A (item 5). One wall is 330 feet long, the other 575 feet long, but both are [REDACTED] at the base. Orientation of the drive-through revetment is [REDACTED]

25X1D Eight probable drive-through structures were identified on [REDACTED] photography, 25X1D adjacent to launch positions 3B1, 3B2, 5B1, 5B2, 5B3, 6B1, 6B2, and 6B3 (items 6-13). Missile equipment was observed in the launch area on the [REDACTED] coverages. No changes were apparent within the support or guidance areas.

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25X1D FIGURE 33. MOSCOW SAM SITE E15-1.

SAM SITE E15-1

25X1D

Excluding consideration of the triad area, a number of changes have occurred in the launch area since the previous report. 1/ Some of this activity was reported; however, subsequent coverage permits more detailed analysis of the unidentified activity. The two excavations on the north side of rib road 9A (Figure 33, items 1 and 2) are now identified as horseshoe-shaped earthen revetments. Measurements for walls of the eastern one (item 1) are 150, 60, and 120

25X1D feet in length, [REDACTED] at the base, and an estimated [REDACTED] Orientation of this revetment is [REDACTED]

25X1D The western revetment walls (item 2) are 125, 65, and 100 feet in length, [REDACTED] at the base and approx-

25X1D imately [REDACTED] Orientation of the revetment

is [REDACTED] These two revetments are 270 feet apart, center-to-center.

Two parallel walls have been constructed on opposite sides of rib road 7A (item 3) and include the curved portion of the rib road leading from the centerline road. The walls were constructed by scraping earth up on both sides of the road to create a drive-through revetment. Walls are 365 and 340 feet in length; both are 20 feet wide at the base and approximately [REDACTED]

[REDACTED] Distance between walls is 60 feet, and orientation of the revetment is [REDACTED] degrees. 25X1D 25X1D

Similar construction has also taken place at rib road 5A (item 4). Walls of the revetment are 295 feet long, [REDACTED] at the base, and an estimated [REDACTED] The distance between walls is [REDACTED] orientation of the

25X1D 25X1D

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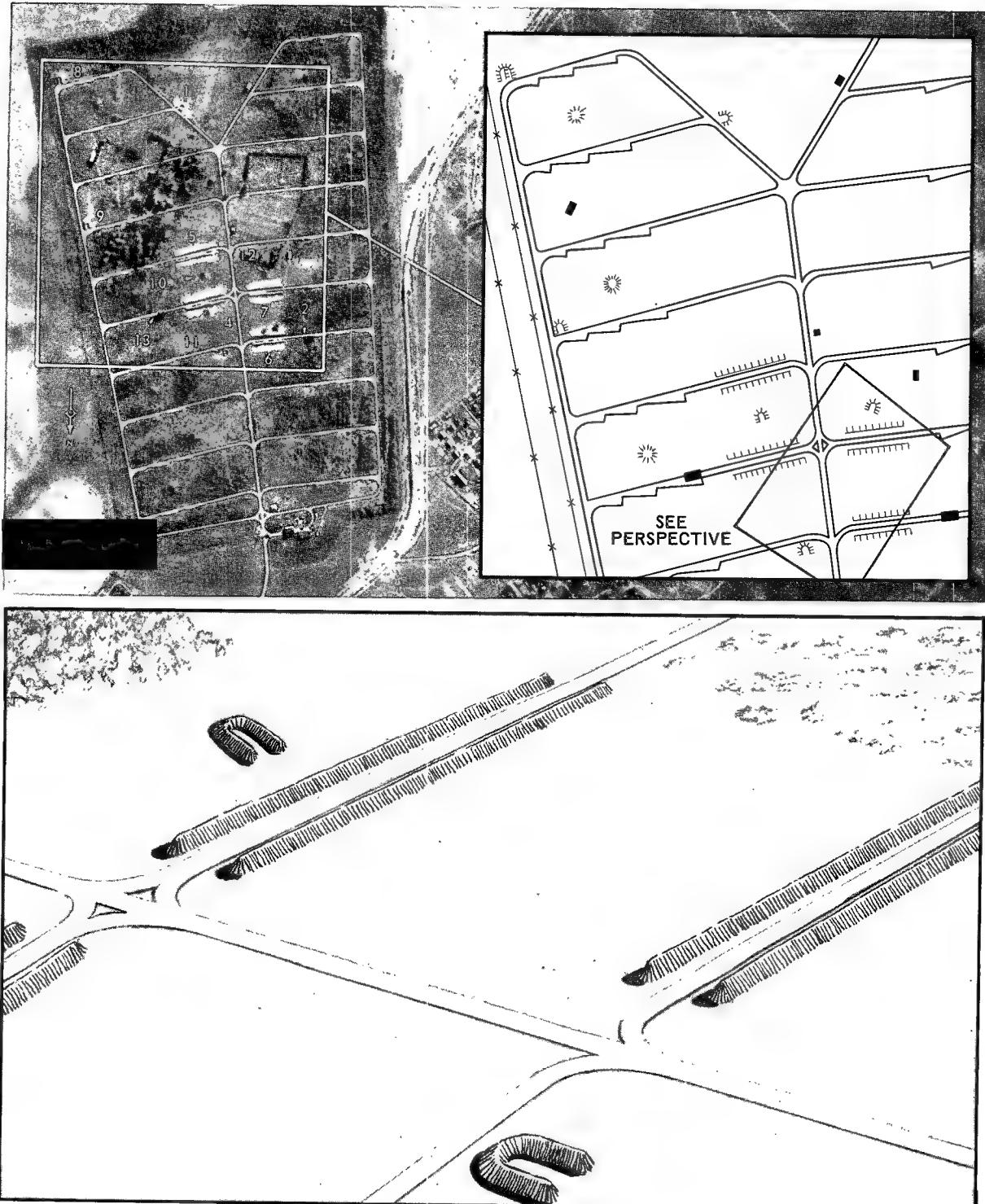


FIGURE 34. MOSCOW SAM SITE E16-1.

NPIC J-6379 (12/64)

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25X1D revetment is [REDACTED]

A revetment along rib road 2B (item 5) is similar to the one at rib road 7A, also having one wall constructed to include the curved portion of road leading from the centerline road. Walls of the revetment are 555 and 615 feet

25X1D in length, 15 feet wide at the base, and an estimated [REDACTED] Orientation of the revet-
25X1D ment is [REDACTED]

Earthen walls have been constructed around three sides of an unidentified structure (item 6) on the west side of the centerline road between rib roads 6B and 7B. The three walls are 70, 75, and 90 feet long. Similar construction has occurred around another unidentified structure, on the north side of rib road 4B (item 7). These three walls are 50, 70, and 50 feet long.

25X1D Missile equipment was observed in the launch area in [REDACTED]. No changes were observed in the guidance or support areas.

SAM SITE E16-1

25X1D Four drive-through revetments were ob-
25X1D served along rib roads on photography of [REDACTED]

25X1D [REDACTED]. The revetment at rib road 5A (Figure 34, item 4) has walls 340 feet long, 75 feet apart, 15 feet wide at the base, and

25X1D approximately [REDACTED] Orientation of
25X1D the revetment is [REDACTED]. The revet-
25X1D ment at rib road 6A (item 5) has walls 340 feet

25X1D long, [REDACTED] at the base, an estimated
25X1D [REDACTED] Orientation

25X1D of the revetment is [REDACTED]. A re-
25X1D vetment along rib road 4B (item 6) has walls

25X1D 390 feet long, [REDACTED] at the base, and
25X1D estimated to be 15 feet high. The walls are

25X1D [REDACTED] and the revetment has an ori-
25X1D entation of [REDACTED]. A revetment along

25X1D rib road 5B (item 7) has walls 420 feet long,
25X1D 15 feet wide at the base, and

approximately [REDACTED] Its orientation 25X1D
is [REDACTED] 25X1D

In addition to the drive-through revetments, several smaller, horseshoe-shaped revetments were identified in the launch area on [REDACTED] 25X1D

[REDACTED] One is outside the perimeter road in the previously reported scarred area opposite rib road 9A (item 1). Walls of this revetment are 65, 55, and 70 feet long, and its orientation is 65/245 degrees. At the south-east corner of the perimeter road (item 8) a double horseshoe utilizing a common center wall has been constructed. The three parallel walls are 75 feet long and approximately 30 feet apart; the two bases are 80 feet long; and all walls are approximately 20 feet wide at the base. Orientation of the revetment is [REDACTED] 25X1D

degrees. A horseshoe-shaped revetment on the south side of rib road 7A (item 9) is 65, 50, and 45 feet long and is oriented [REDACTED] 25X1D

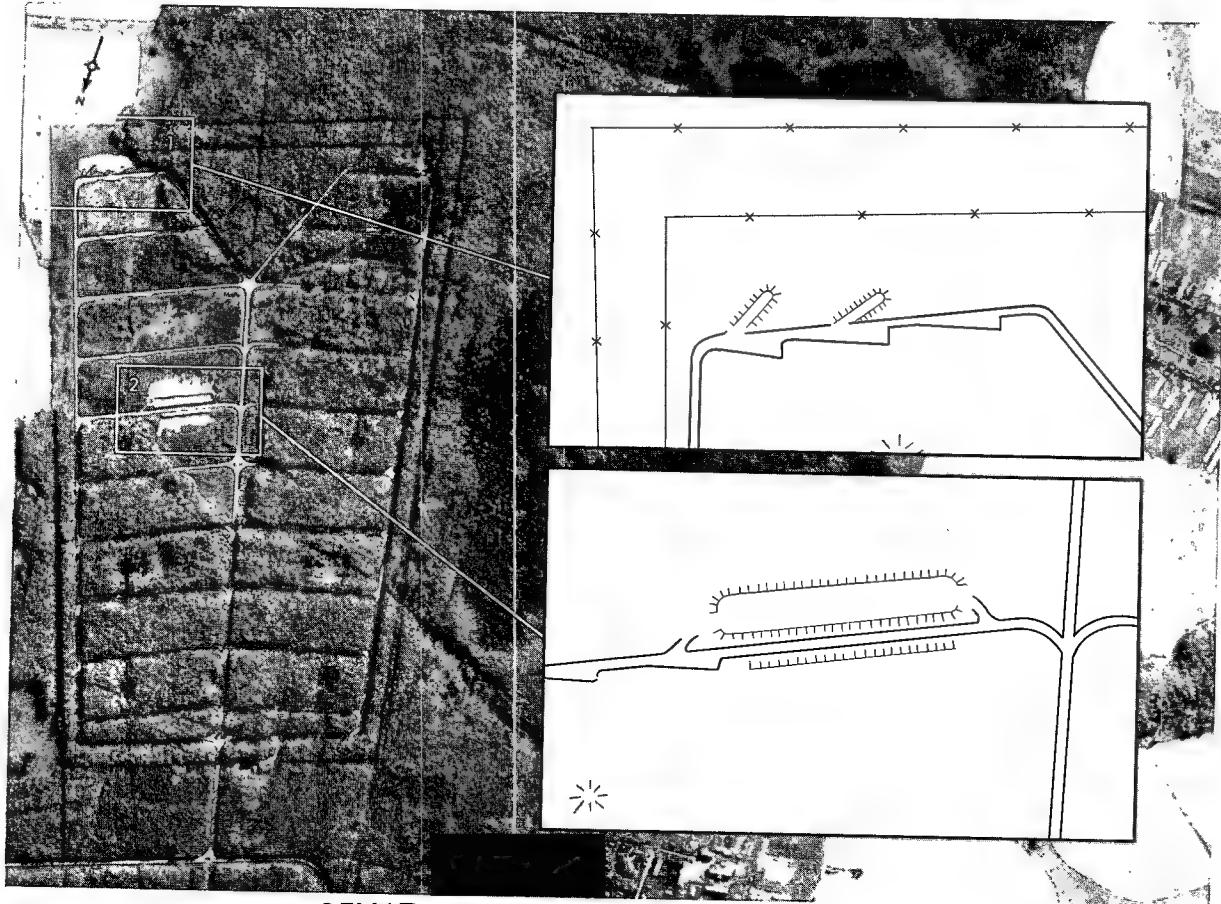
Between rib roads 5A and 6A (item 10), there is a revetment with walls 60, 45, and 65 feet long which is oriented [REDACTED] 25X1D On the north side of rib road 4A (item 11) there is another revetment with walls 60, 45, and 65 feet long. Its orientation is [REDACTED] 25X1D

A revetment between rib roads 5B and 6B (item 12) south of item 7, has walls 55, 40, and 60 feet in length and is oriented [REDACTED] 25X1D Two probable drive-through structures were identified, adjacent to launch position 5A1 (item 13) and 4B1 (item 2).

Missile equipment was observed in the launch area on the [REDACTED] 25X1D [REDACTED] No changes were apparent in the support or guidance areas. 25X1D

SAM SITE E17-1

Two horseshoe-shaped revetments were identified on photography of [REDACTED] in the previously reported scarred area at the southeast corner of the launch area (Fig-



NPIC J-6380 (12/64)

25X1D FIGURE 35. MOSCOW SAM SITE E17-1.

ure 35, item 1). The west revetment has walls 150, 55, and 150 long and approximately 20 feet wide at the base. Orientation of the revetment

the revetment is [REDACTED] Across rib 25X1D

25X1D is [REDACTED] The east revetment has walls measuring 90, 50, and 75 feet long and 20 feet wide at the base. Orientation is [REDACTED] degrees.

road 6A, in the area of previous scarring, a 415-foot earthen wall, 30 feet wide at the base and approximately [REDACTED] has been con-

25X1D

structed parallel to the rib road. A combination of this 415-foot wall with the northern wall of the 485-foot rectangular revetment creates a drive-through revetment 415 feet long with walls approximately [REDACTED] and an orientation of [REDACTED].

25X1D

25X1D

Missile equipment was not observed on coversages of [REDACTED] 25X1D

No changes were observed in the support or guidance areas.

25X1D

25X1D

25X1D

25X1D

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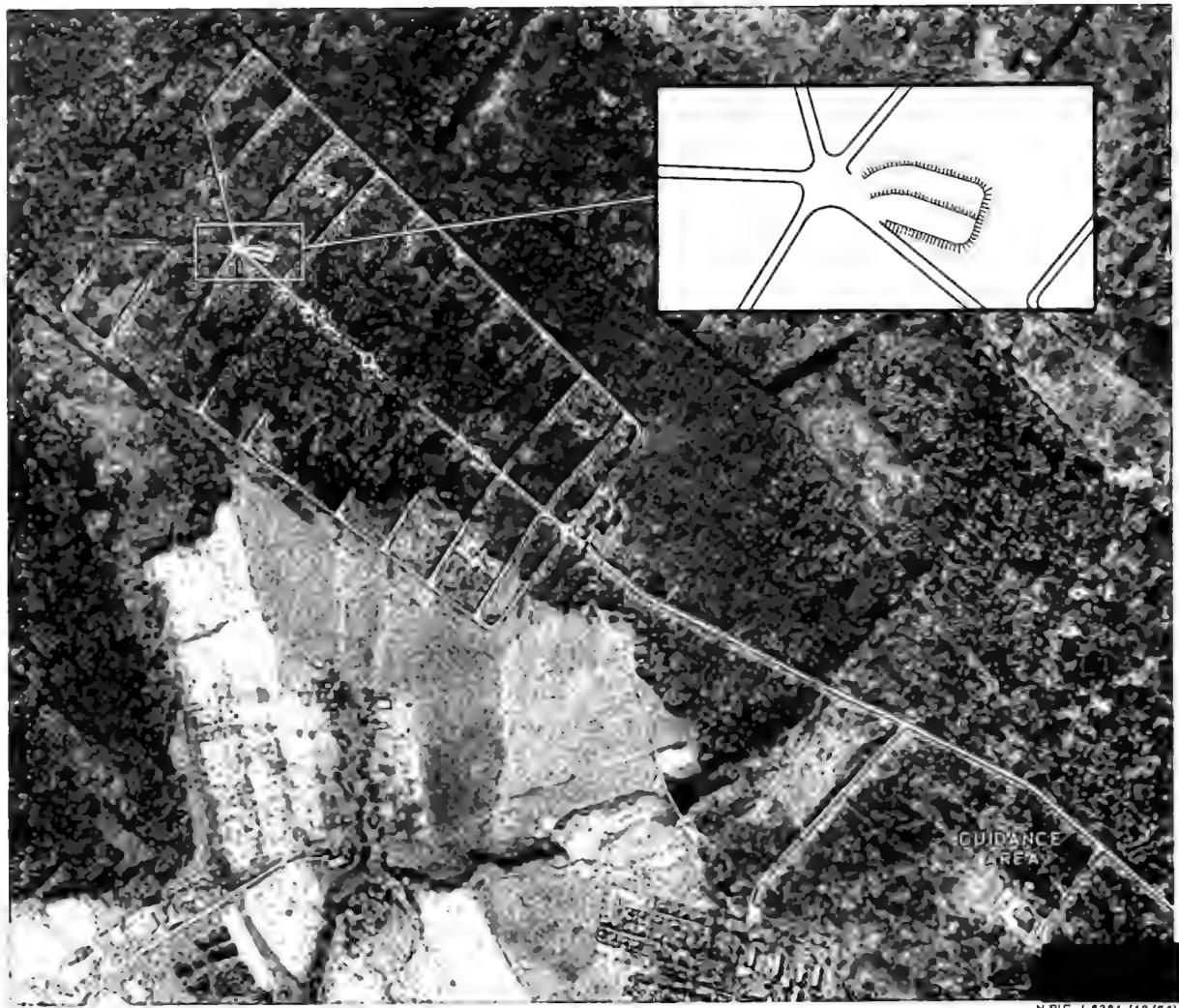


FIGURE 36. MOSCOW SAM SITE E18-1.

NPIC J-6381 (12/64)

25X1D

SAM SITE E18-1

25X1D

On photography of [REDACTED] two curved earthen revetments were identified in the previously reported scarred area between rib roads 7B and 8B (Figure 36, item 1). The two revetments were constructed by building a U-shaped revetment and then dividing it with a single curved wall which became a common wall to both revetments. Overall length of the revet-

ments is 235 feet, with walls 20 feet wide at the base and an estimated [REDACTED] The interior distance for each revetment from wall to wall is 50 feet and road access is from the centerline road. Orientation of the revetments is [REDACTED] degrees.

Missile equipment was observed in the [REDACTED] launch area on photography of [REDACTED] [REDACTED]. No changes were apparent within [REDACTED] the support or guidance areas.

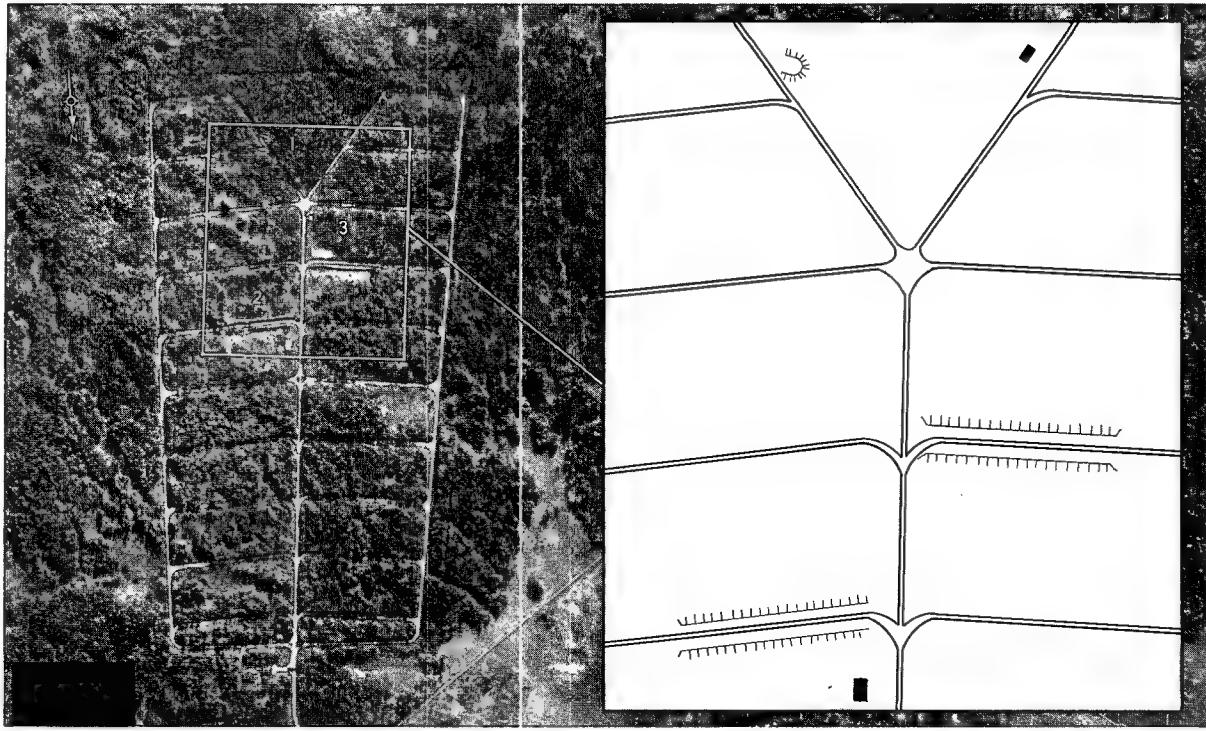


FIGURE 37. MOSCOW SAM SITE E19-1.

SAM SITE E19-1

25X1D On photography of [REDACTED] a possible horseshoe-shaped revetment was observed in the previously reported scarred area outside the perimeter road, near rib road 9A (Figure 37, item 1). Vegetation obscured the outer limits of the revetment and it is not possible to provide measurements, but its approximate orientation is [REDACTED] degrees.

25X1D South of rib road 7B, an earthen wall 665 feet long had been constructed parallel to the road by [REDACTED] (item 3). The wall is [REDACTED] wide at the base and approximately [REDACTED]. Subsequently, on photography of [REDACTED] second earthen wall was observed across the road, forming a drive-through revetment 665 feet long with walls [REDACTED] at the base and approximately [REDACTED]. Orientation of the revetment is [REDACTED].

25X1D At rib road 6A two parallel earthen walls have been constructed on opposite sides of the road (item 2), creating a drive-through revetment which has an orientation of [REDACTED]. The southern wall is approximately 660 feet long and has been extended to include the curve at the intersection with the centerline road. The other wall measures 640 feet in length. Both walls are [REDACTED] at the base and approximately [REDACTED].

25X1D Missile equipment was observed in the launch area on photographic coverages of [REDACTED]. No changes were apparent in the guidance or support areas.

SAM SITE E20-1 (NO FIGURE)

25X1D There has been no apparent change at any area of this site since [REDACTED]. Missile equipment was observed in the launch area [REDACTED].

25X1D

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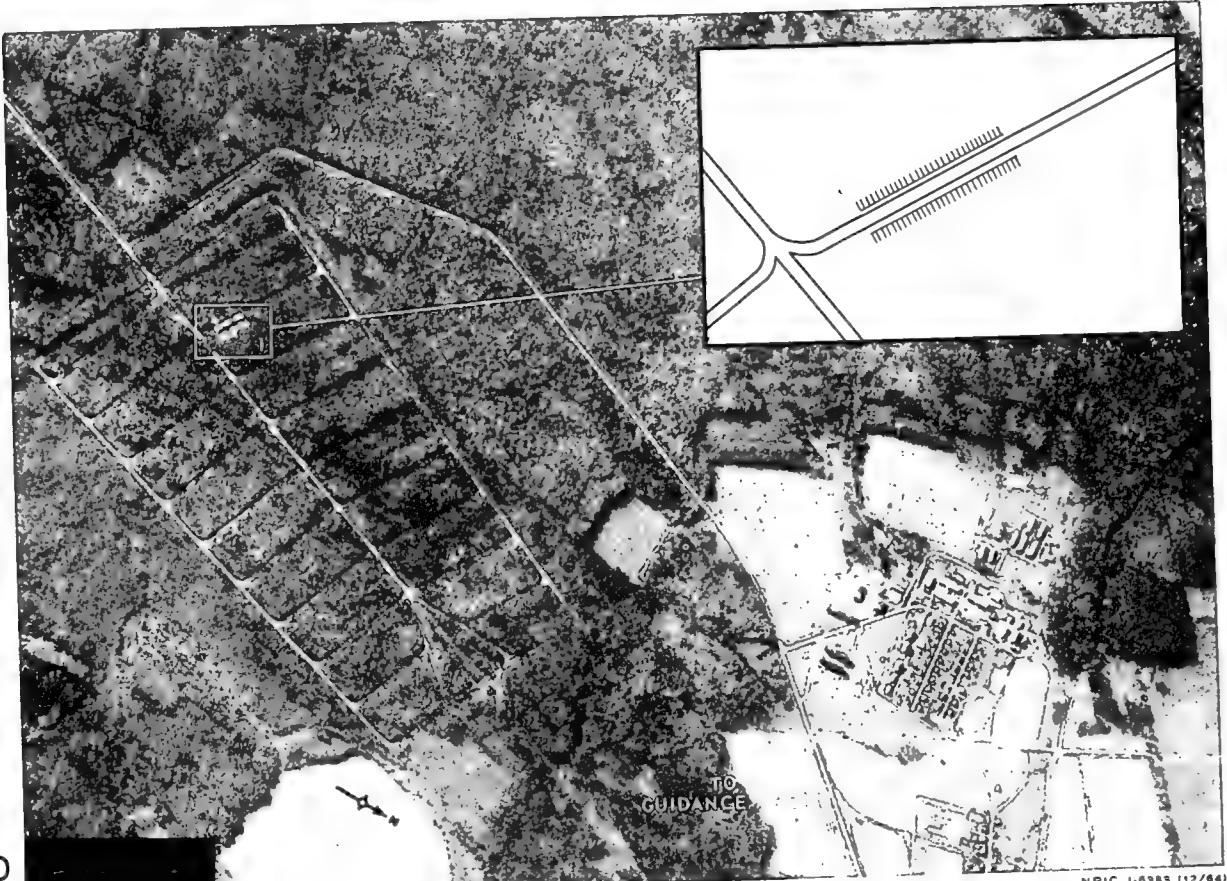


FIGURE 38. MOSCOW SAM SITE E21-1.

25X1D

SAM SITE E21-1

Two parallel earthen walls on opposite sides of rib road 8B (Figure 38, item 1) were observed on photography of [REDACTED]. The walls had been constructed by pushing earth up from the sides of the road, in effect creating a drive-through revetment 50 feet wide, 350 feet long, with walls 20 feet wide at the base and estimated to be [REDACTED]. The orientation of the revetment is [REDACTED]. Missile equipment was observed within the launch area on [REDACTED]. No changes have been apparent within the support or guidance areas since [REDACTED] 3/

SAM SITE E22-1

The previously reported 1/ probable revetment located between rib roads 4B and 5B (Figure 39, item 2) has been confirmed as a U-shaped revetment on the [REDACTED] coverage. The walls are 230, 170, and 230 feet long, 20 feet wide at the base, and approximately 15 feet high. Orientation of the revetment is [REDACTED]

25X1D

On the same coverage, a horseshoe-shaped revetment was identified in the woods on the south side of the perimeter road at the southeast corner of the launch area (item 3). No measurements are provided for the revetment

25X1D

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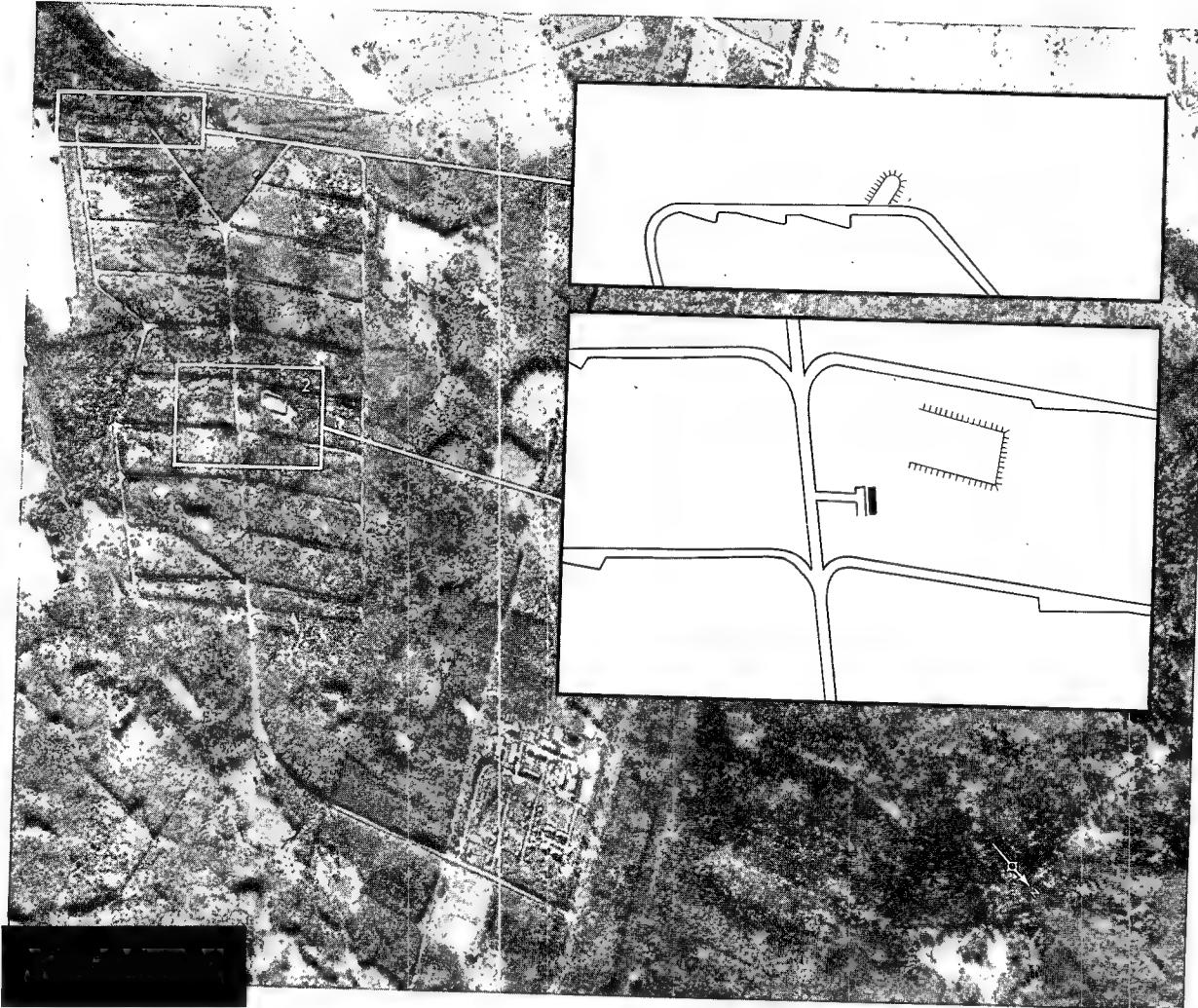


FIGURE 39. MOSCOW SAM SITE E22-1.

NPI C J-6384 (12/64)

because heavy growth of vegetation in the area obscures the boundaries, but an approximate orientation of [redacted] degrees is estimated.

No missile equipment was seen in the launch.

No changes were apparent in the support or guidance areas.

SAM SITE E23-1

25X1D [REDACTED] revealed
a horseshoe-shaped earthen revetment in the

previously reported scarred area between rib road 9A and the perimeter road (Figure 40, item 1). Walls are 120, 60, and 95 feet long, at the base, and estimated to be

The L-shaped scarring reported at rib roads 5A, 6A, and 7A has developed into a large L-shaped earthen revetment (item 4). The southern wall of the base of the revetment, along the south side of rib road 7A, is 465

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25X1D

feet long; the wall across the road is 340 feet long and constructed to permit continued use of rib road 7A. The stem of the L consists of two parallel walls, segmented into 425- and 435-foot sections to permit rib road 6A to pass through. Walls of the revetment are 20 feet wide at the base and approximately 15 feet high. Orientation of the base is [REDACTED] and orientation of the stem is [REDACTED]

25X1D [REDACTED]

25X1D [REDACTED]

A second horseshoe-shaped revetment was identified on the [REDACTED] photography at the previously reported scarring opposite 3A (item 5). Walls of the revetment are 80, 50, and 80 feet long, [REDACTED] at the base, and approximately [REDACTED] Orientation of the revetment is [REDACTED]

25X1D [REDACTED]

Missile equipment was not observed on the

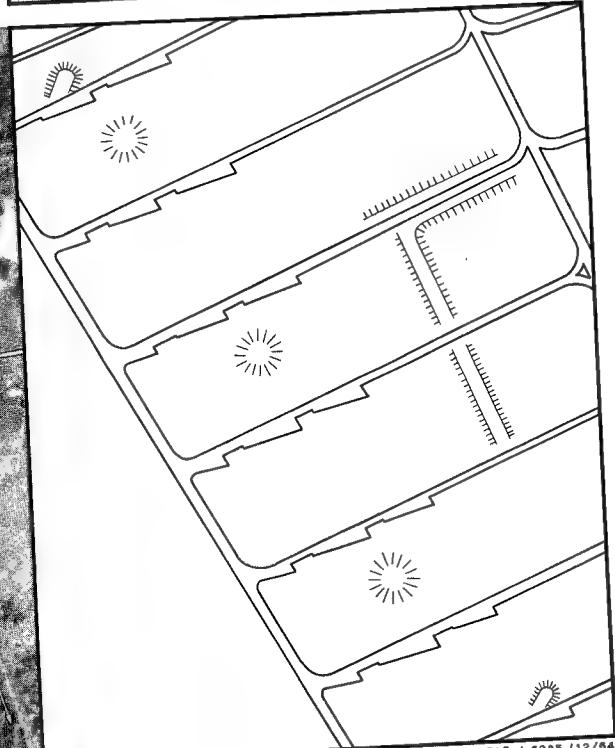
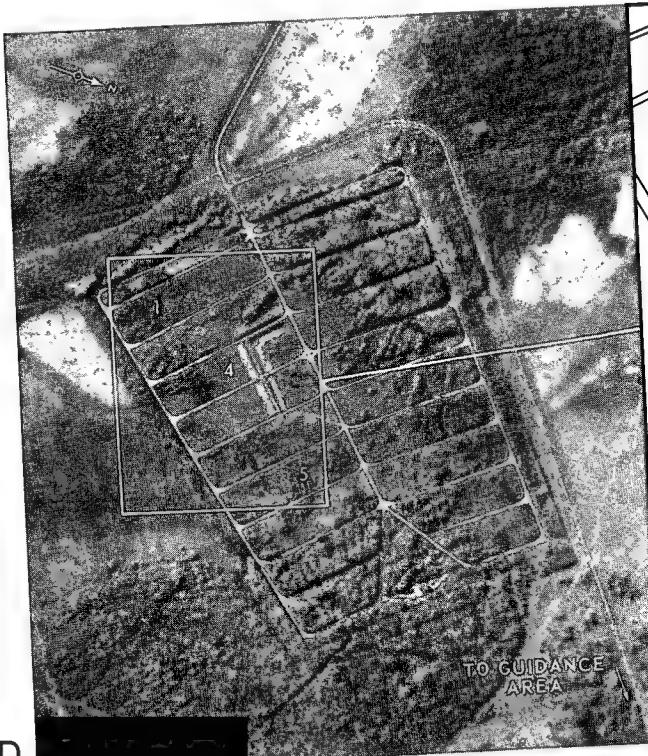
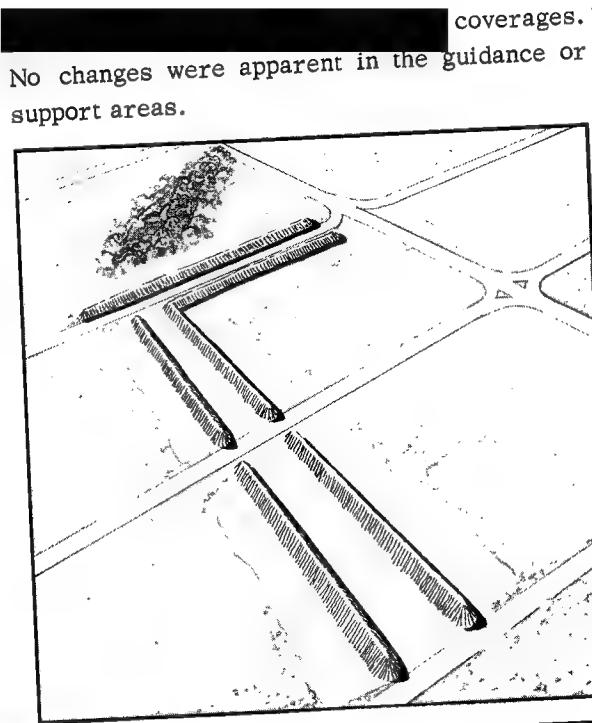
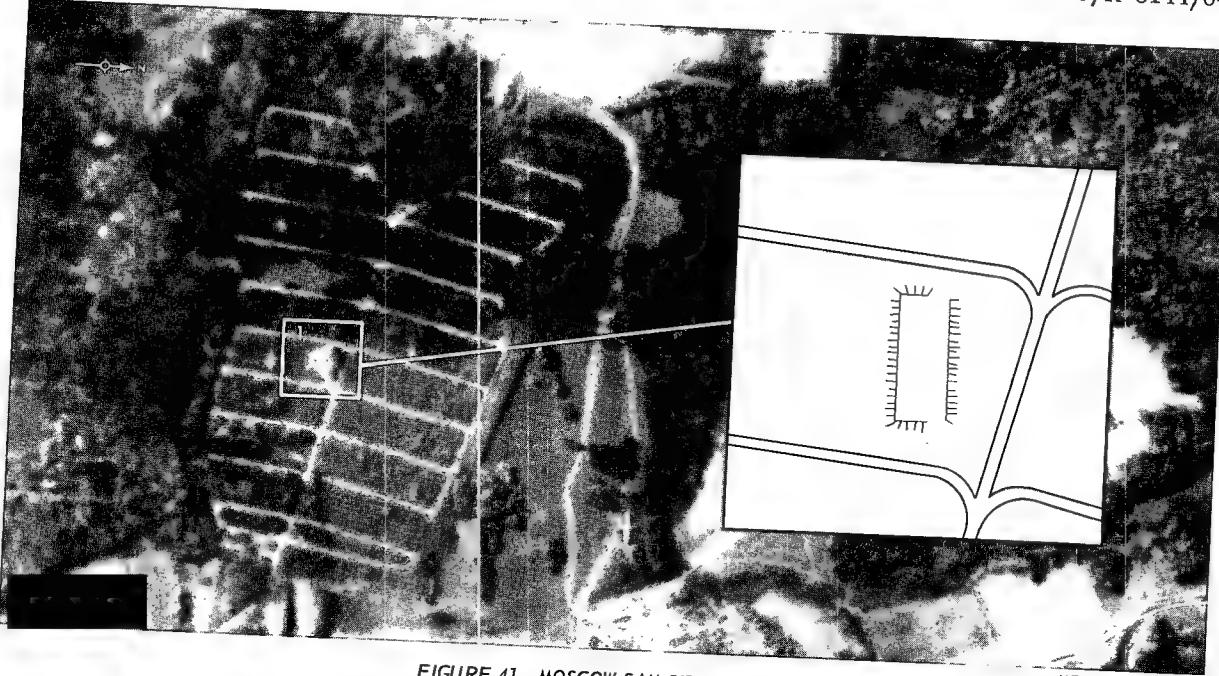


FIGURE 40. MOSCOW SAM SITE E23-1.

25X1D [REDACTED]

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25X1D

FIGURE 41. MOSCOW SAM SITE E28-1.

NPIC J-6386 (12/64)

SAM SITE E24-1 (NO FIGURE)

25X1D SAM Site E24-1 has had no apparent change in the launch area since [REDACTED] except for the previously reported Possible AMM-Associated Electronic Facility. 1/ Missile equipment was not observed on the [REDACTED] 25X1D [REDACTED] coverages.

25X1D An SA-3 SAM site of the G configuration was identified on the [REDACTED] just west of the launch area and on the north side of the launch site service road.

25X1D

SAM SITE E25-1 (NO FIGURE)

25X1D Two missions have covered this site since the previous report, 1/ but on the first (Mis-25X1D [REDACTED] the site was obscured by heavy clouds and cloud shadow and photography over 25X1D the site from the second [REDACTED] was of poor quality. No changes were apparent at the site, nor was missile equipment discernible or either of the coverages.

SAM SITE E26-1 (NO FIGURE) 25X1D

25X1D Since [REDACTED] this site has been seen only once [REDACTED] at which time heavy clouds and cloud shadow obscured the area precluding any determination of the status of previously reported construction activity. 1/ Missile equipment was not discernible.

SAM SITE E27-1 (NO FIGURE)

This site has been seen only once (Mis- [REDACTED] since the previous report 1/ and the coverage was of poor image quality over the site. No changes were observed, nor was missile equipment discernible.

SAM SITE E28-1

25X1D Photography of [REDACTED] permitted re- finement of the measurements for the previously reported earthen revetment between rib roads 4A and 5A (Figure 41, item 1). The drive-through revetment, which is generally rectangular, has

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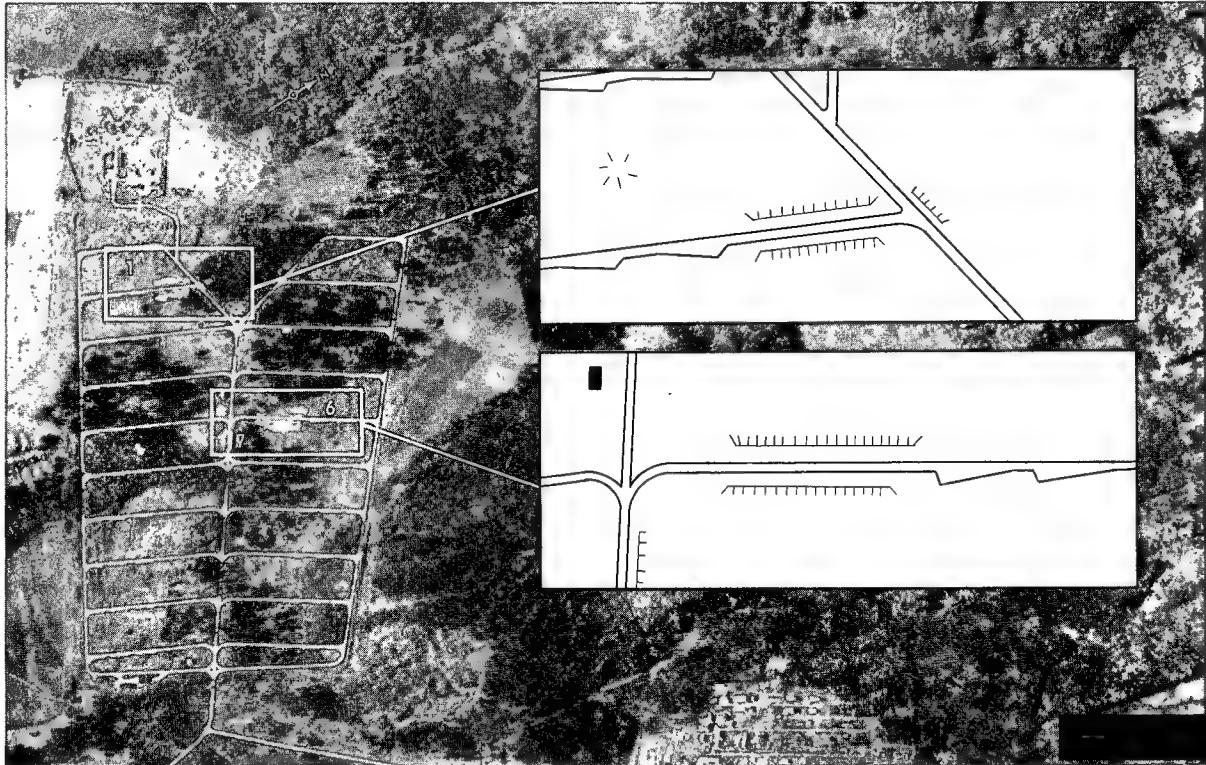


FIGURE 42. MOSCOW SAM SITE E30-1.

NPIC J-6387 (12/64)

25X1D

an overall length of 230 feet and is 95 feet wide. Two 35-foot wide openings, one in the west wall and the other in the east wall, permit a 20-foot wide road to pass through the revetment and connect with rib roads 4A and 5A. Revetment

25X1D walls are 20 feet wide and estimated to be [REDACTED] feet high. Orientation of the revetment is [REDACTED]

25X1D [REDACTED] Missile equipment was not discernible on the [REDACTED] photography, nor have any

25X1D changes been observed in the guidance or support areas since [REDACTED]

revetment with an orientation of [REDACTED]. Walls of the revetment are 260 feet long and [REDACTED] feet wide at the base. Across the perimeter road from rib road 9A, there is an earthen wall approximately 100 feet long.

25X1D A drive-through revetment has been constructed in the previously reported scarred area along both sides of rib road 6B (item 6).

Both walls are 395 feet long and 20 feet wide at the base. Orientation of the revetment is [REDACTED]

25X1D Parallel to the centerline road between rib roads 5B and 6B (item 7) an earthen wall approximately 200 feet long has

been constructed.

25X1D Missile equipment was not discernible on the [REDACTED] No changes [REDACTED] were observed in the support or guidance areas.

SAM SITE E30-1

25X1D On photography of [REDACTED] parallel walls were identified in the previously reported scarred area [REDACTED] on both sides of rib road 9A (Figure 42, item 1), creating a drive-through

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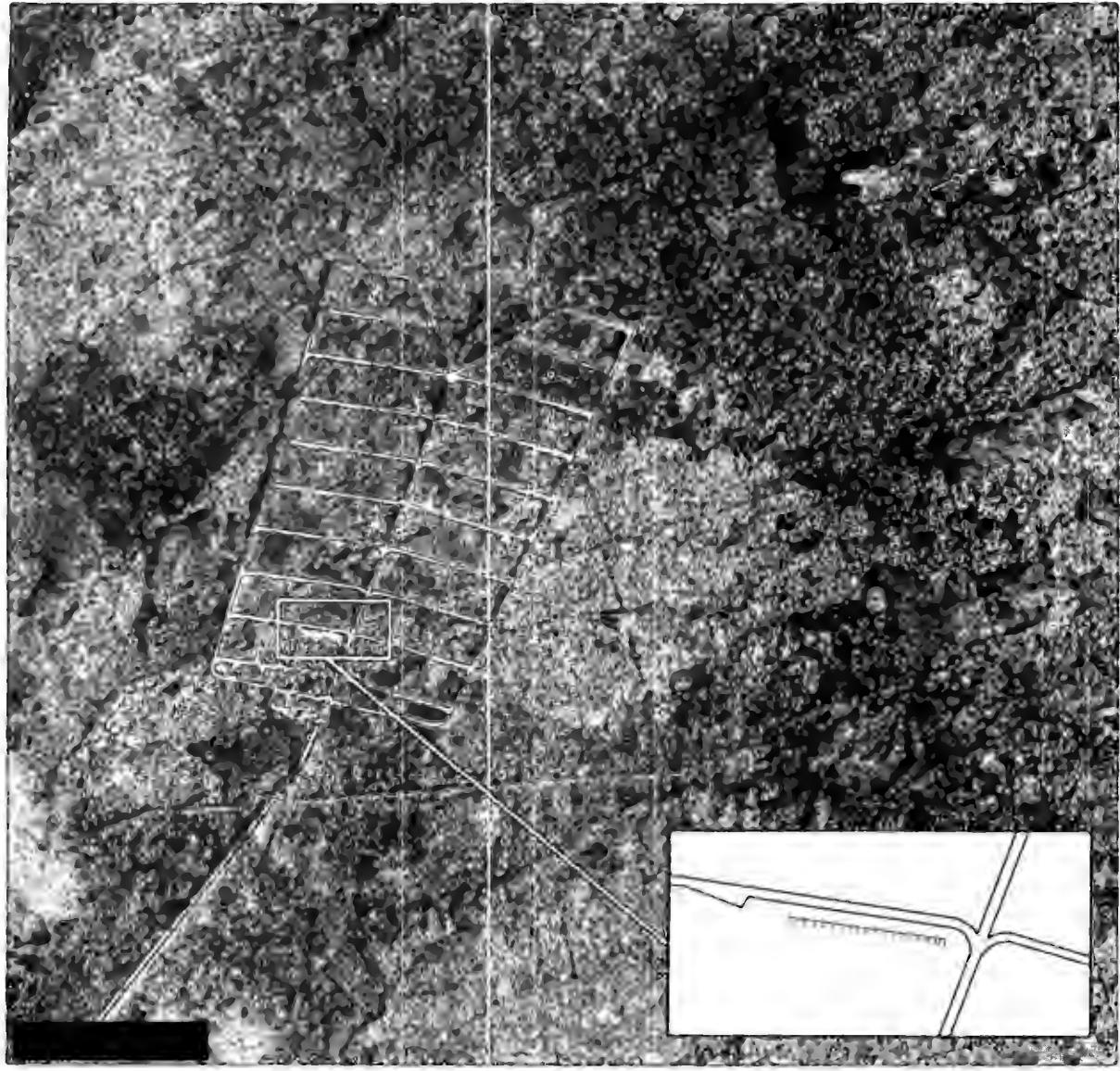


FIGURE 43. MOSCOW SAM SITE E31-1.

NPIC J-8368 (12/64)

SAM SITE E31-1

An earthen wall had been constructed parallel to the east side of rib road 2A (Figure 43, item 1) by [REDACTED] by pushing up earth from the cleared area. The wall is 425 feet long and 20 feet wide at the base.

Later construction of a second wall, on the opposite side of the road, would create a drive-through revetment having an orientation of [REDACTED]

25X1D

No changes were observed in the support or guidance areas, nor was missile equipment discernible on the [REDACTED] coverage

25X1D

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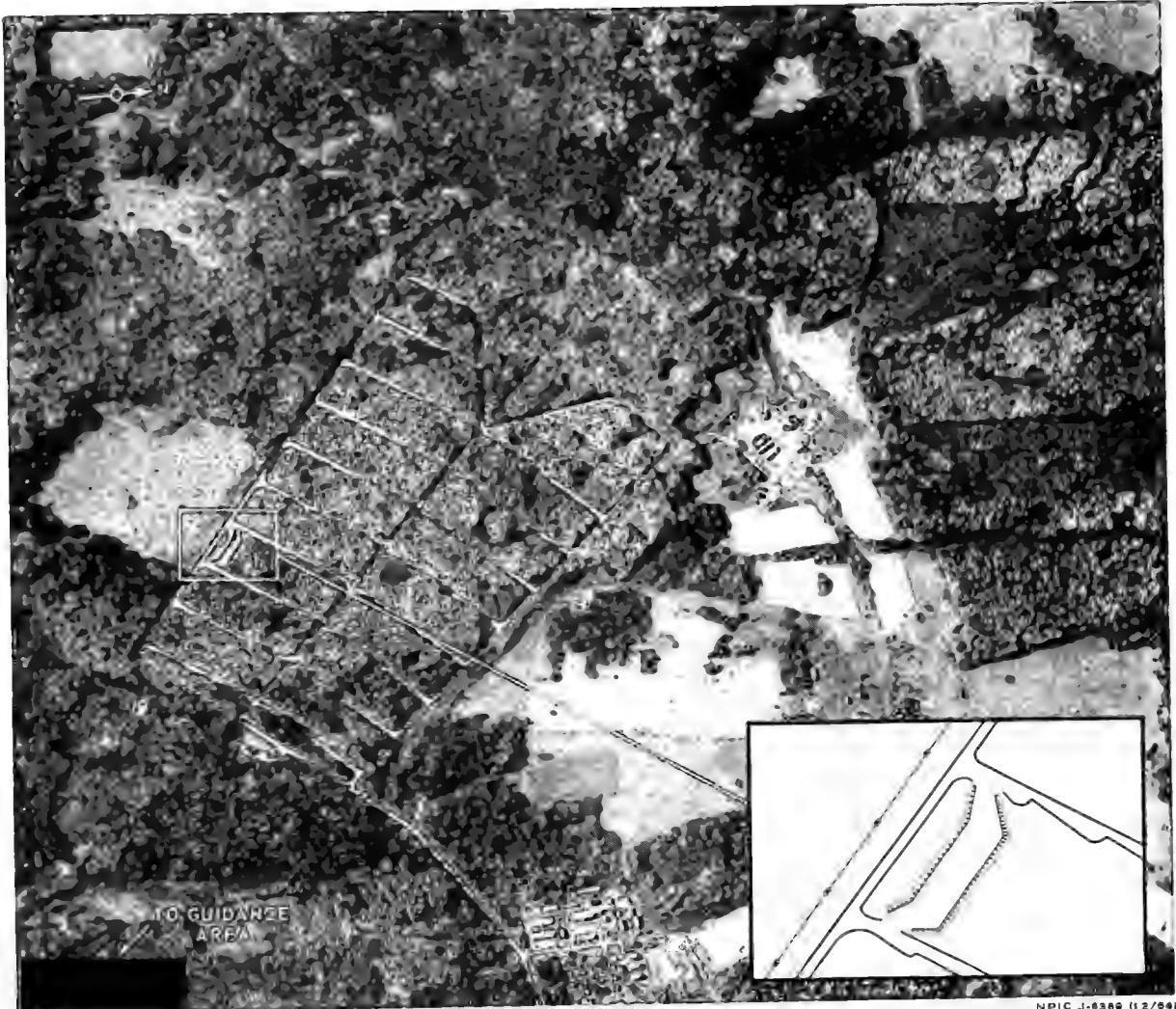


FIGURE 44. MOSCOW SAM SITE E32-1.

SAM SITE E32-1

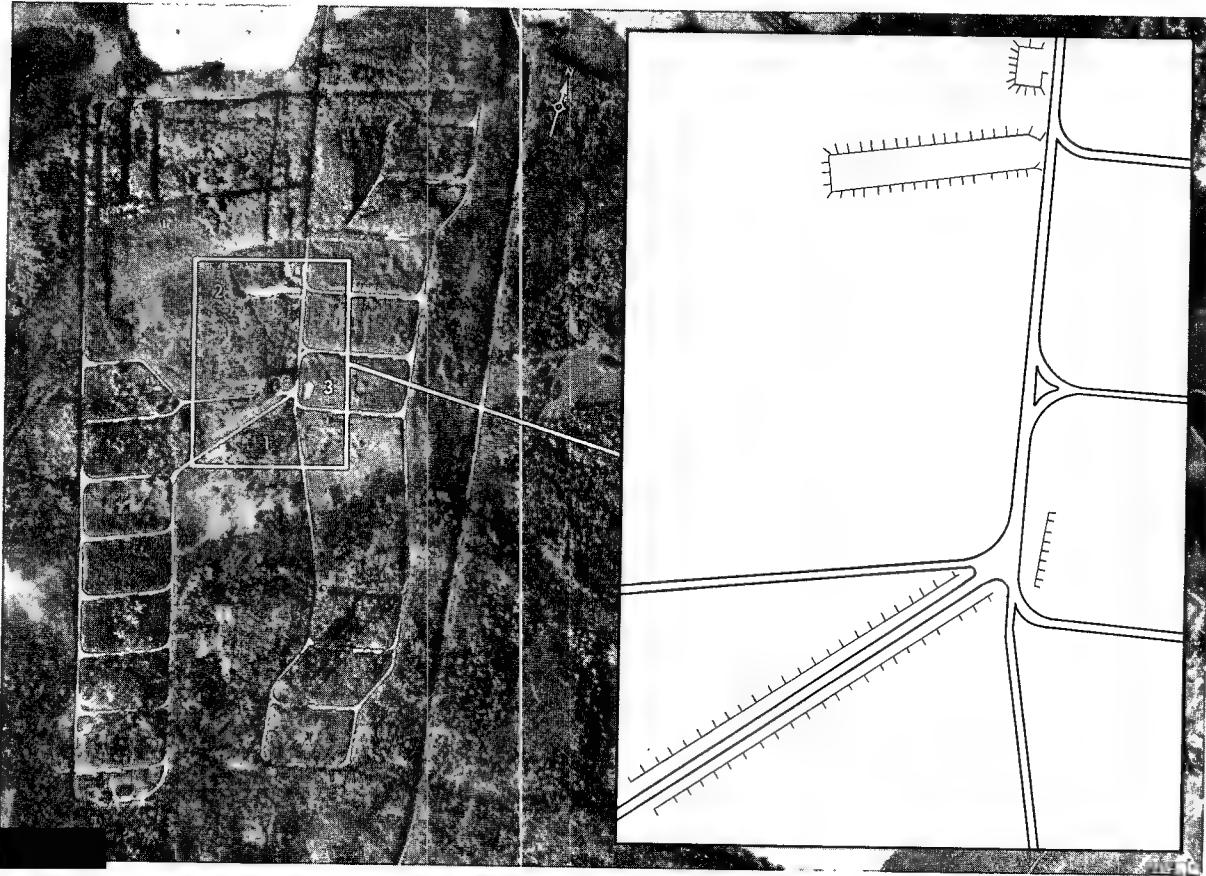
25X1D Photography of [REDACTED] permits refinement of the measurements of the drive-through revetment along the perimeter road between rib roads 3A and 4A (Figure 44, item 1). The revetment has narrow openings at the north and south ends; the south opening is 35 feet wide, the north one is [REDACTED]. The west wall is constructed of three segments; the south, forking from the perimeter road and

rib road 3A, is 90 feet long; the middle segment is 235 feet long; and the north segment is 115 feet long. Segments of the western wall are 115, 315, and 130 feet long. The walls are 20 feet wide at the base and approximately [REDACTED] feet high. Orientation of the revetment is

25X1D 25X1D
No missile equipment was discernible, on photography of [REDACTED] and no changes are apparent in the support or guidance areas.

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25X1D

FIGURE 45. MOSCOW SAM SITE E34-1.

SAM SITE E33-1

(See page 48)

SAM SITE E34-1

Previously reported scarring 1/ located on both sides of the perimeter road (Figure 45, item 1) appears dark toned on photography

25X1D of [REDACTED] but probable walls were noted on both sides of the road. Although the walls are not clearly defined, they are estimated to be 985 feet long, and they form a drive-through revetment with an orientation of [REDACTED]

On the same coverage, a rectangular earthen revetment was identified opposite rib road 6B (item 2). The revetment measures 425 by 85 feet with walls 20 feet wide at the base and

approximately [REDACTED] Orientation of the revetment is [REDACTED] A 145-foot earthen wall (item 3) has been constructed near the junction of the centerline road with rib road 4B.

Missile equipment was observed in the launch area on the [REDACTED] coverage. No changes were observed in the support or guidance areas.

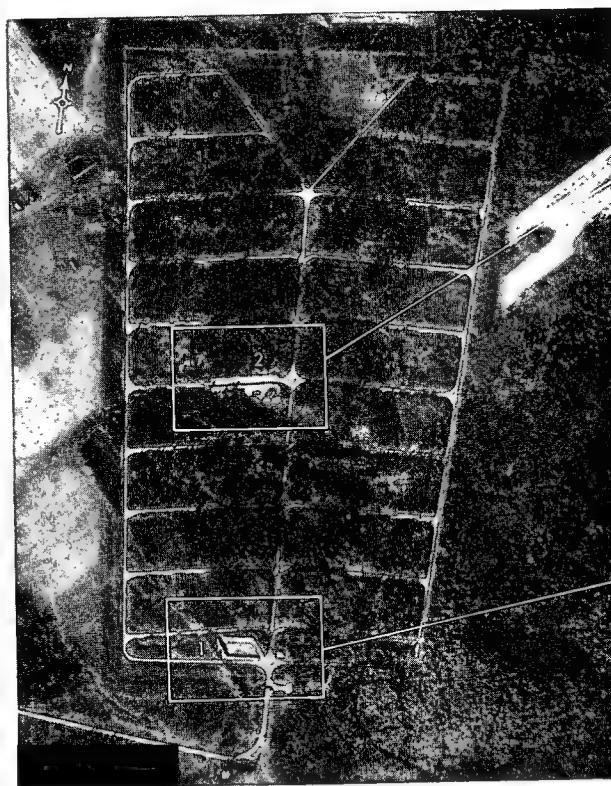
SAM SITE E35-1 (NO FIGURE)

There has been no apparent change in this site since [REDACTED] Missile equipment was observed in the launch area on the [REDACTED]

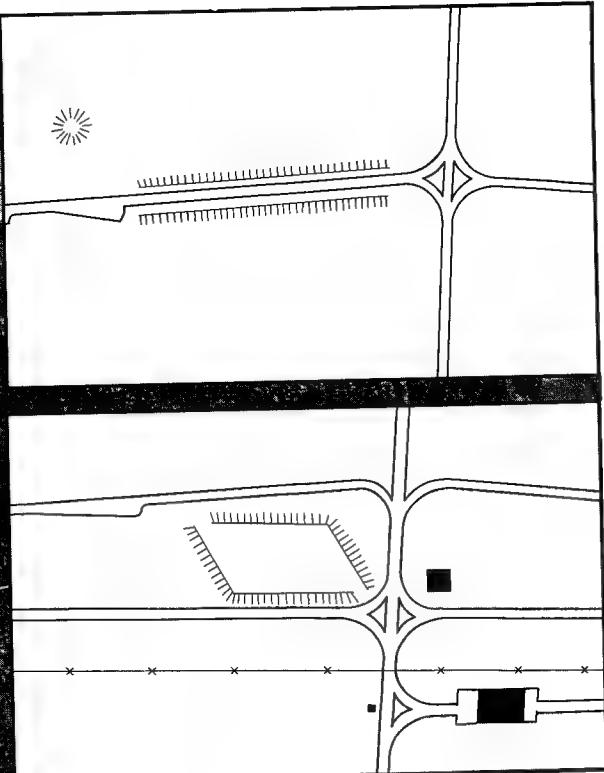
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25X1D



SAM SITE E36-1

25X1D Photography of [REDACTED] permits a refinement of previously reported measurements for the earthen revetment between rib road 1A and the perimeter road (Figure 46, item 1). The revetment is a parallelogram with two sides 270 feet long and two 165 feet long. Walls of the revetment are 25 feet wide at the base and approximately [REDACTED]

25X1D [REDACTED]
25X1D Orientation of the revetment is [REDACTED]

On the same coverage, two parallel earthen walls were observed in the previously reported scarred area along rib road 5A (item 2). The walls were constructed by pushing earth toward the rib road, creating a drive-through revetment whose walls are 580 feet long, 50 feet

25X1D apart, 20 feet wide at the base, and approximately [REDACTED]
25X1D Orientation of the revetment is [REDACTED]

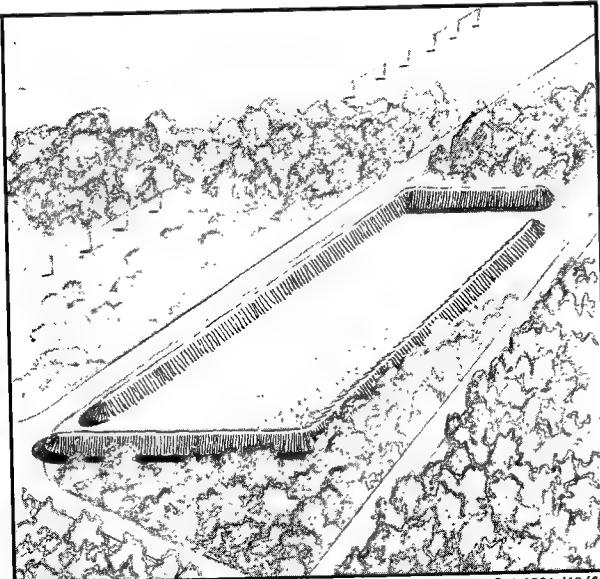


FIGURE 46. MOSCOW SAM SITE E36-1.

Missile equipment was observed in the launch area on the [REDACTED] coverage.

25X1D

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POSSIBLE AMM-ASSOCIATED ELECTRONIC FACILITIES
AT SAM SITES E05-1 AND E33-1

25X1D Photography of [REDACTED] revealed a significant addition underway at the possible AMM-associated electronic facilities at SA-1 SAM Sites E05-1 and E33-1. On that photography it became evident that a second triad was being constructed at the same end of the launch area as the original at each site, probably similarly oriented and approximately the same size. Photography of the same date revealed no comparable construction at SAM Site E15-1, and the coverage of Site E24-1 was of poor image quality, badly blurred.

Details regarding SAM Sites E05-1 and E33-1 follow.

SAM SITE E05-1

Three clearings, probably the preliminary construction for a second triad of buildings, were apparent in the northeast corner of the launch area on photography of [REDACTED]. The largest clearing (Figure 47, item 1) is 2,150 feet south of the largest building of the existing triad. The clearing covers an area of approximately 400 by 170 feet; the two smaller clearings, in line with the smaller buildings of the existing triad, measure 125 by 115 feet and 125 by 85 feet. The clearings form a triangle with two sides 850 feet long and one side 910 feet long, which is somewhat smaller than the existing triangle whose sides are 1,025, 855, and 815 feet long. Review of earlier photography indicates no sign of the clearings in [REDACTED].

25X1D A drive-through revetment has been constructed between rib roads 4A and 5A (item 2), with 30-foot openings in the east and west walls providing access to the roads. Walls of the revetment are 20 feet wide at the base and are estimated to be [REDACTED]. Orientation of the revetment is [REDACTED] degrees.

25X1D

No changes have been observed in the support or guidance areas since [REDACTED]. [REDACTED] Missile equipment was observed in the launch area on photography of [REDACTED]

SAM SITE E33-1

(See page 48)

Since the [REDACTED] coverage of this site, previously reported, 5/ construction has begun on a second triad, on the east side of the launch area and generally in line with the existing triad. The probable foundation for the large building measures 225 by 140 feet (Figure 48, item 3) and is 2,030 feet from its counterpart on the west side of the launch area. Two clearings complete the triad, the western one (item 4) covering an area 210 by 155 feet, and the eastern (item 5) covering an area 320 by 240 feet. An imaginary line connecting the centers of the two clearings and the probable foundation would form a triangle with sides 790, 905, and 870 feet long, comparable to the western triad's measurements of 800, 1,015 and 860 feet. Additional roads to serve the new triad were under construction in [REDACTED] and there was indication of clearing for the large building during that time.

Photography of [REDACTED] shows that on the ground at the northwest corner of the existing large triad building there is a structure that is probably intended for use as an environmental cover (item 6), after a radar is installed on the elevated platform. The structure appears to be cylindrical, 120 feet in diameter, and an estimated [REDACTED]. It possibly contains a recessed dome.

There is a U-shaped revetment at rib road 5B (item 2) which measures 185 by 115 by 215 feet, has walls 20 feet wide at the base, and

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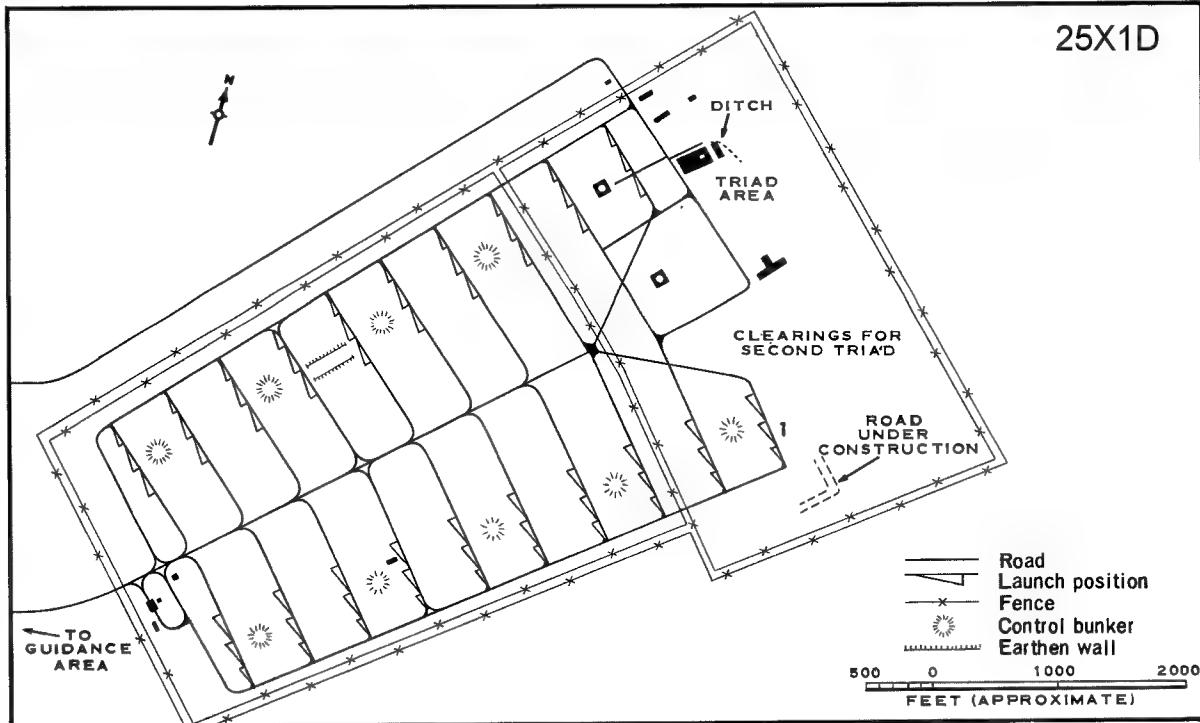


FIGURE 47. MOSCOW SAM SITE E05-1.

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25X1D

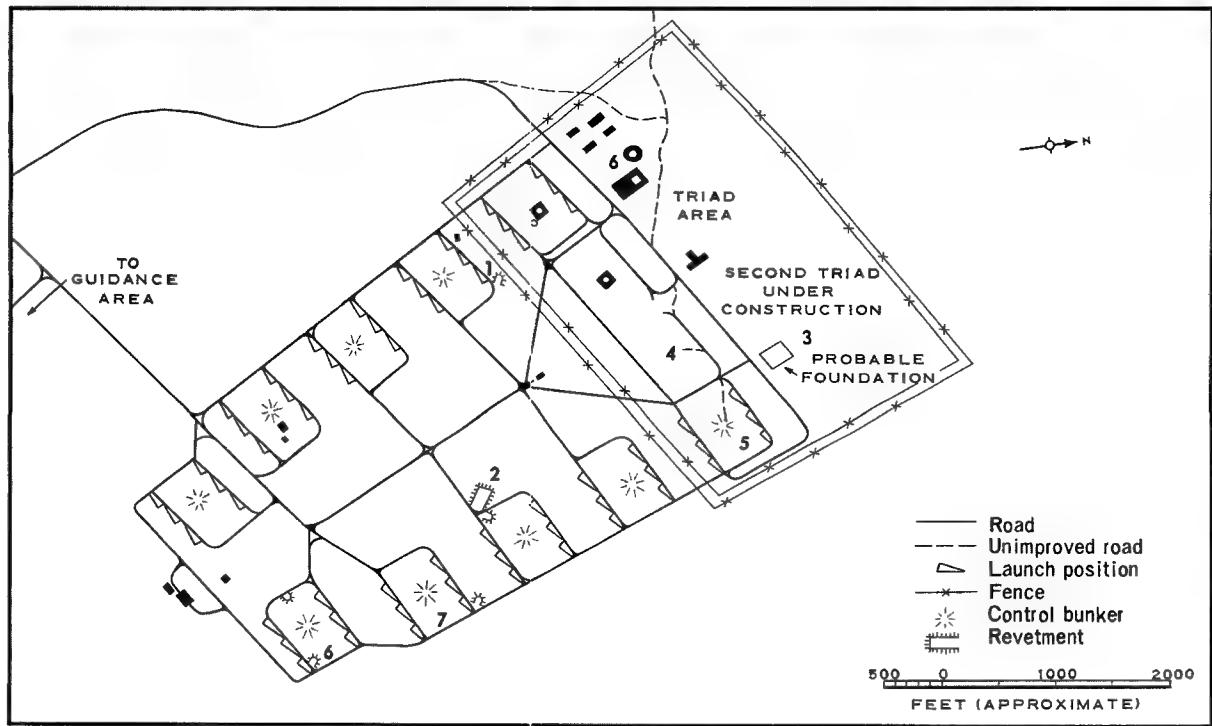


FIGURE 48. MOSCOW SAM SITE E33-1.

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25X1D

25X1D is estimated to be [REDACTED]. Orientation of the revetment is [REDACTED]. Three other horseshoe revetments are located north of rib road 9A (item 1), and near the perimeter road at its junctions with rib roads 1B (item 6)

and 4B (item 7).

No change has been observed in the support or guidance areas since [REDACTED]. Missile 25X1D equipment was evident in the launch area on photography of [REDACTED] 25X1D

CONCLUSIONS

On the basis of this survey of the changes taking place at the Moscow SA-1 SAM sites, the following conclusions can be drawn:

A major modification of the Moscow SA-1 sites, consisting primarily of the construction of earthen revetments, is underway with no apparent disruption of the operational capability of the sites.

The placement, size, and configuration of

these revetments vary, indicating that symmetrical deployment within the site is not required.

The construction of additional building triads at sites E05-1 and E33-1, evident on [REDACTED] photography, indicates a continuing construction program for the possible AMM-associated electronic facilities.

25X1D

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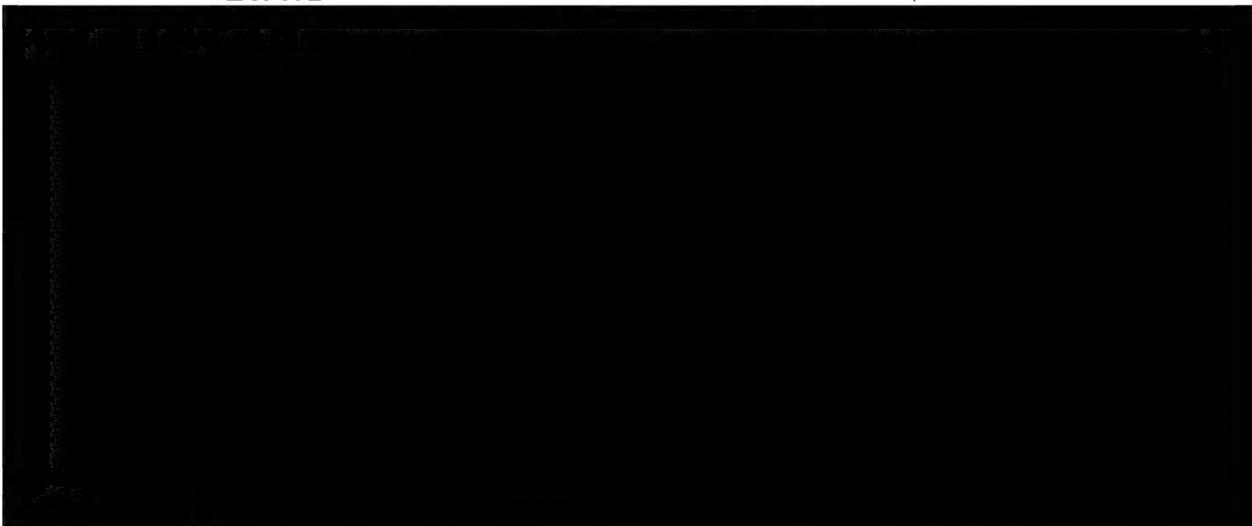
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PHOTOGRAPHY 25X1D



Ground Photography

DIA. Enclosure, photo 13A, Air Moscow [redacted] Observations, Moscow and Points West, 18 Jun 64 (SECRET)

MAPS OR CHARTS

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DIA. US Air Target Chart, Series 200, Sheet 0154-23HL, 2d ed, Apr 63, scale 1:200,000 (SECRET)

25X1A

DIA. US Air Target Chart, Series 200, Sheet 0167-4HL, 2d ed, Mar 63, scale 1:200,000 (SECRET)

DIA. US Air Target Chart, Series 200, Sheet 0167-10HL, 2d ed, Feb 63, scale 1:200,000 (SECRET)

DIA. US Air Target Chart, Series 200, Sheet 0167-5HL, 2d ed, Apr 63, scale 1:200,000 (SECRET)

DOCUMENTS 25X1D

1. NPIC. R-836/64, [redacted] SA-1 SAM Sites, Moscow, USSR, Sep 64 (TOP SECRET CHESS RUFF)

2. NPIC. R-103/64, Possible Antimissile Missile Associated Facilities, Moscow Area, USSR, Feb 64 (TOP SECRET CHESS RUFF)

3. NPIC. R-71/64, SA-1 SAM Sites, Moscow, USSR, Southwest Quadrant, Feb 64 (TOP SECRET RUFF)

4. NPIC. R-706/64, Possible AMM-Associated Electronic Facilities, Moscow, USSR, February--June 1964, Aug 64 (TOP SECRET CHESS RUFF)

5. NPIC. R-918/64, Possible AMM-Associated Activity and Other Installations, Moscow, USSR, June-August, Nov 64 (TOP SECRET CHESS RUFF)

REQUIREMENT

CIA. C-DI 4-81,852

NPIC PROJECT

11798/64

25X1D

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PHOTOGRAPHY 25X1D



Ground Photography

DIA. Enclosure, photo 13A, Air Moscow, [REDACTED] *Observations, Moscow and Points West, 18 Jun 64 (SECRET)*

MAPS OR CHARTS

DIA. US Air Target Chart, Series 200, Sheet 0154-22HL, 2d ed, Mar 63, scale 1:200,000 (SECRET) 25X1A

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DIA. US Air Target Chart, Series 200, Sheet 0167-4HL, 2d ed, Mar 63, scale 1:200,000 (SECRET)

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DIA. US Air Target Chart, Series 200, Sheet 0167-5HL, 2d ed, Apr 63, scale 1:200,000 (SECRET)

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1. NPIC. R-836/64. [REDACTED] *at SA-1 SAM Sites, Moscow, USSR, Sep 64 (TOP SECRET CHESS RUFF)*

2. NPIC. R-103/64, *Possible Antimissile Missile Associated Facilities, Moscow Area, USSR, Feb 64 (TOP SECRET CHESS RUFF)*

3. NPIC. R-71/64, *SA-1 SAM Sites, Moscow, USSR, Southwest Quadrant, Feb 64 (TOP SECRET RUFF)*

4. NPIC. R-706/64, *Possible AMM-Associated Electronic Facilities, Moscow, USSR, February--June 1964, Aug 64 (TOP SECRET CHESS RUFF)*

5. NPIC. R-918/64, *Possible AMM-Associated Activity and Other Installations, Moscow, USSR, June-August, Nov 64 (TOP SECRET CHESS RUFF)*

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